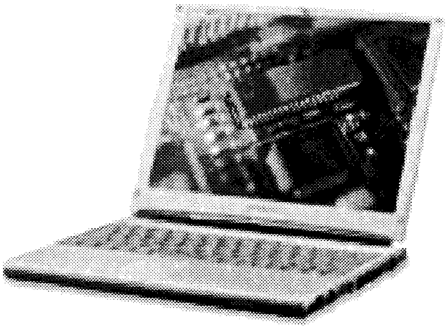
# SHARP SERVICE MANUAL

CODE: 00ZPCA150SM-E



## PERSONAL COMPUTER

## MODEL PC-A150

CONTENTS

CHAPTER 1. OUTLINE . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1

CHAPTER 2. SPECIFICATIONS . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1

CHAPTER 3. BLOCK DIAGRAM . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3

CHAPTER 4. CIRCUIT DIAGRAM AND PARTS LAYOUT . . . . . . . . . . . 4

- PARTS LIST

THIS SERVICE MANUAL DESCRIBES ONLY THE DIFFERENCES. FOR THE OTHER POINTS REFER TO THE SERVICE MANUAL (CODE: 00ZPCA100SM-E) OF THE PC-A100.

Parts marked with "⚠" is important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

**SHARP CORPORATION**

This document has been published to be used
for after sales service only.
The contents are subject to change without notice.

## Caution about Battery

**Caution:** Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

**Attention:** Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type recommandé par le constructeur. Mettre au rébut les batteries usagées conformément aux instructions du fabricant.

# CHAPTER 1. OUTLINE

## 1. System Overview

The PC-A150 is a B/5-size subnotebook computer with a Tillamook 266-MHz MMX Pentium processor, 64 MB of memory as standard equipment. Compact in size, yet it has a wide viewable area by using a 11.3-inch SVGA (800 × 600) active-matrix display. Its 17-mm pitch, 2.5-mm stroke keyboard allows easy key operations. With an expansion battery pack installed, the machine operates for up to 8.5 hours continuously.

Major changes in the specifications of the PC-A100 include CPU system clock (from 233MHz to 266MHz), display controller (from NM2097 to NM2160) and HDD storage capacity (from Hitachi 3.2GB to Toshiba 4.3GB).

# CHAPTER 2. SPECIFICATIONS

### CPU

- Intel MMX Pentium 266MHz processor with 32KB cache memory and math coprocessor.
- Core Voltage : 1.8V, Signal interface : 2.5V, 320pin TCP package

### System core logic

- Intel 430TX PCIset
- North bridge (System Controller) : 82439TX (MTXC), Host to PCI bridge, controls L2 ache and system memory. Core Voltage : 3.3V, 324pin BGA package
- South bridge (PCI to ISA/IDE Xcelerator) : 82371EB (PIIX4E), PCI to ISA bridge, controls IDE, USB and Power Management, Includes RTC. 3.3V (5V tolerance), 324pin BGA package

### System memory

- Standard 64MB (Can not be extended)
- 4M × 16 bits type EDO DRAM × 8, 3.3V

### L2 Cache memory

- Cache memory : 256KB, 32K × 32 bits pipeline burst SRAM × 2. Core Voltage : 3.3V, I/O Voltage : 2.5V, 100pin LQFP package × 2
- TAG RAM : 32K × 8 bits SRAM. Core Voltage : 3.3V, I/O Voltage : 2.5V, 28pin SOJ package

### Clock Generator

- Microclock MIC1492-02
- Input 14.31813 MHz, Can be controlled by SM bus i/f
- Core Voltage : 3.3V, Output 3.3V & 2.5V, 28pin SSOP package

### Video Controller

- NeoMagic NM2160
- Includes 2MB VRAM, System i/f : PCI, LCD i/f : LVDS
- Resolution and Number of colors

| Resolution | Number of Colors |
|---|---|
| 640 × 480 | 16<br>256<br>64K<br>16M (*1) |
| 800 × 600 | 256<br>64K<br>16M (*1) |
| 1024 × 768 (*2) | 256<br>64K |

*1: The number of colors in this mode is made using a dithering algorithm.

*2: Only 800 × 600 dots are displayed on the internal LCD. Move the cursor to show the remainder of the 1024 × 768 dots.

### LCD

- Sharp LQ113S1LH01, 11.3" SVGA TFT LCD with 1CCFT backlight
- Resolution : 800 × 600
- Effective viewing area (H × V) : 230.4 × 172.8 mm
- Pixel pitch : 0.288 × 0.288 mm
- Power source : 3.3V, 5V, 12V
- I/F : LVDS

### LVDS Controller

- NS DS90C363MTD
- 3.3V, 48pin SSOP package

### PCMCIA Controller

- Ricoh RL5C475A rev.0
- 1 slot PCMCIA Controller, Supports 16bit card, Card bus card, ZB port.
- 3.3V, 144pin LQFP package
- Power Switch : Micrel MIC2562A-1BM (3.3V, 5V, 12V,14-pin SOP package)

### HDD

- Toshiba 2.5" 4.3GB HDD HDD2134
- 5V i/f, 8.45mm H

### BIOS

- ATMEL AT29F040 4Mbits Flash EEPROM
- Includes System, Video, PnP and APM.
- 5V, 32pin PLCC package

### Keyboard Controller

- Mitsubishi M38813
- Support 2 PS/2 ports and 1 Touch pad.
- 5V, 64pin TQFP package

### Keyboard

- Sejin 81 keys keyboard for US, 82 keys for Europe
- IBM 101/102 keys compatible keyboard
- Supports 2 windows keys
- 17mm pitch, 2.5mm stroke

## Touch Pad

- Alps Glide pad
- PS/2 mouse compatible
- 2 click buttons
- Resolution (X × Y) : 290 ± 30 × 255 ± 30 cpi
- Supports IntelliMouse scroll function.
- Automatically disabled when external mouse is connected.

## I/O controller

- NS PC97338VJG
- Controls Serial port, Parallel port, IR port and FDD.
- 5V, 100pin TQFP package

## RS232C driver/Receiver

- Harris HIS213
- 5V, 28pin TSOP package

## FDD

- Mitsubishi 3.5" FDD MF355H
- 5V i/f

## Audio Controller

- Crystal CS4237B
- Sound Blaster, Sound Blaster Pro, Windows Sound System compatioble
- Full duplex operation
- Controls Modem Chipselect
- 5V, 100pin TQFP package
- ZB port buffer : Crystal CS4331, 5V, 8pin SOP package

## Modem Controller (may not be available in some countries)

- PCtel Software Modem PCT388T
- Supports K56Flex.
- 5V, 100pin TQFP package
- CODEC : SGS STLC7546, 5V 44pin TQFP package

## Embedded Controller

- Hitachi 1chip micro controller H8
- Controls Power Sequence, Battery Charge, SM bus for Battery Gage.
- 5V, 100pin QFP

## DC/DC Controller

- V5S(5V), V3S(3.3V) : Toyota SB3052P, VAB(Battery or AC adapter), 28pin SSOP
- VCPUCORE(1.8V) : Toyota SB3030, VAB(Battery or AC adapter), 16pin SOP
- VPP(12V) : Linear Tech. LT1301, V5S(5V), 8pin SOP

## Regulator

- VCPUIO(2.5V) : Micrel MIC2951BU, V3S(3.3V), 5pin
- VMCU(4.7V) : NS LP2951CM, VAB, 8pin SOP
- V3(3.1V) : Trex XC62FP3102M, VMCU, 3pin

## Battery Charger

- Linear Tech. LT1511
- 22V, 24pin SOP package

## Battery

- Li-ion Battery

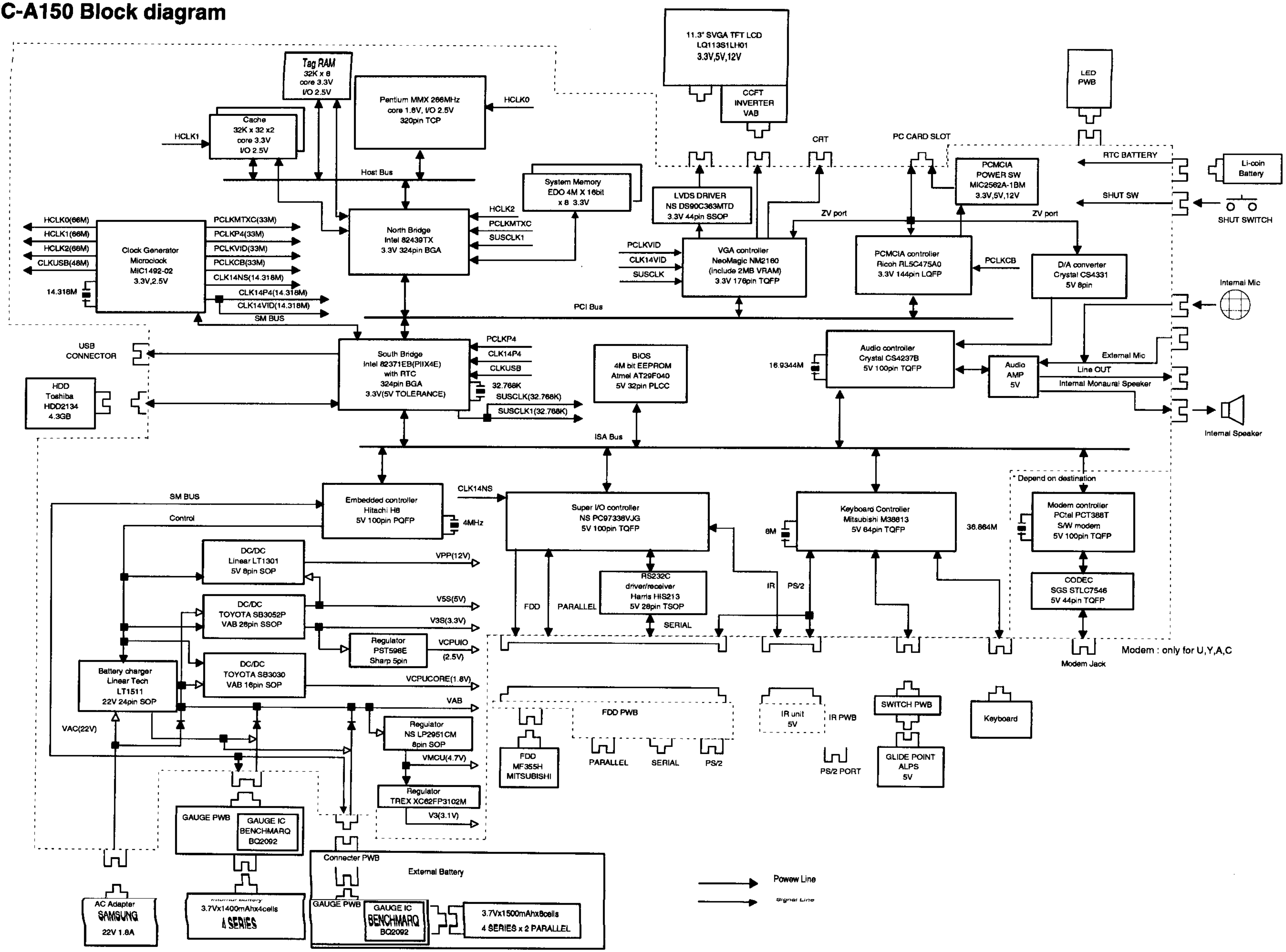
  Internal : Panasonic 3.7V × 1400mAh × 4cells (4 series)
  External : Panasonic 3.7V × 1500mAh × 8cells (4 series, 2 parallel
- Battery Gauge : Benchmarq BQ2092
- Li-coin battery for CNOS backup : Hitachi Maxell CR2032, 3V 220mAh

## AC adapter

- SAMSUNG 22V 1.8A AC Adapter
- Input Voltage : 100-240VAC, Input Frequency : 50/60Hz

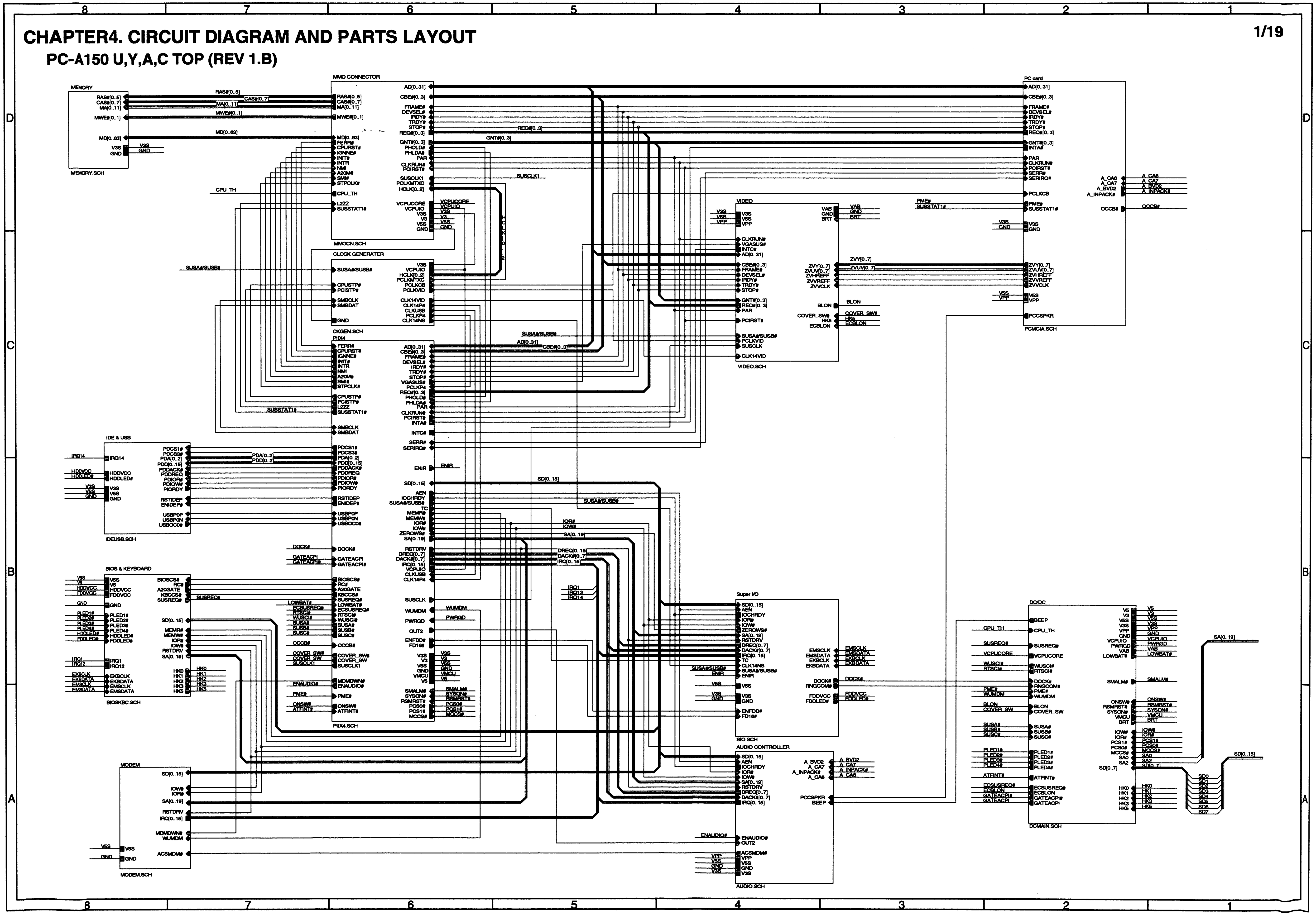
# CHAPTER3. BLOCK DIAGRAM

## PC-A150 Block diagram

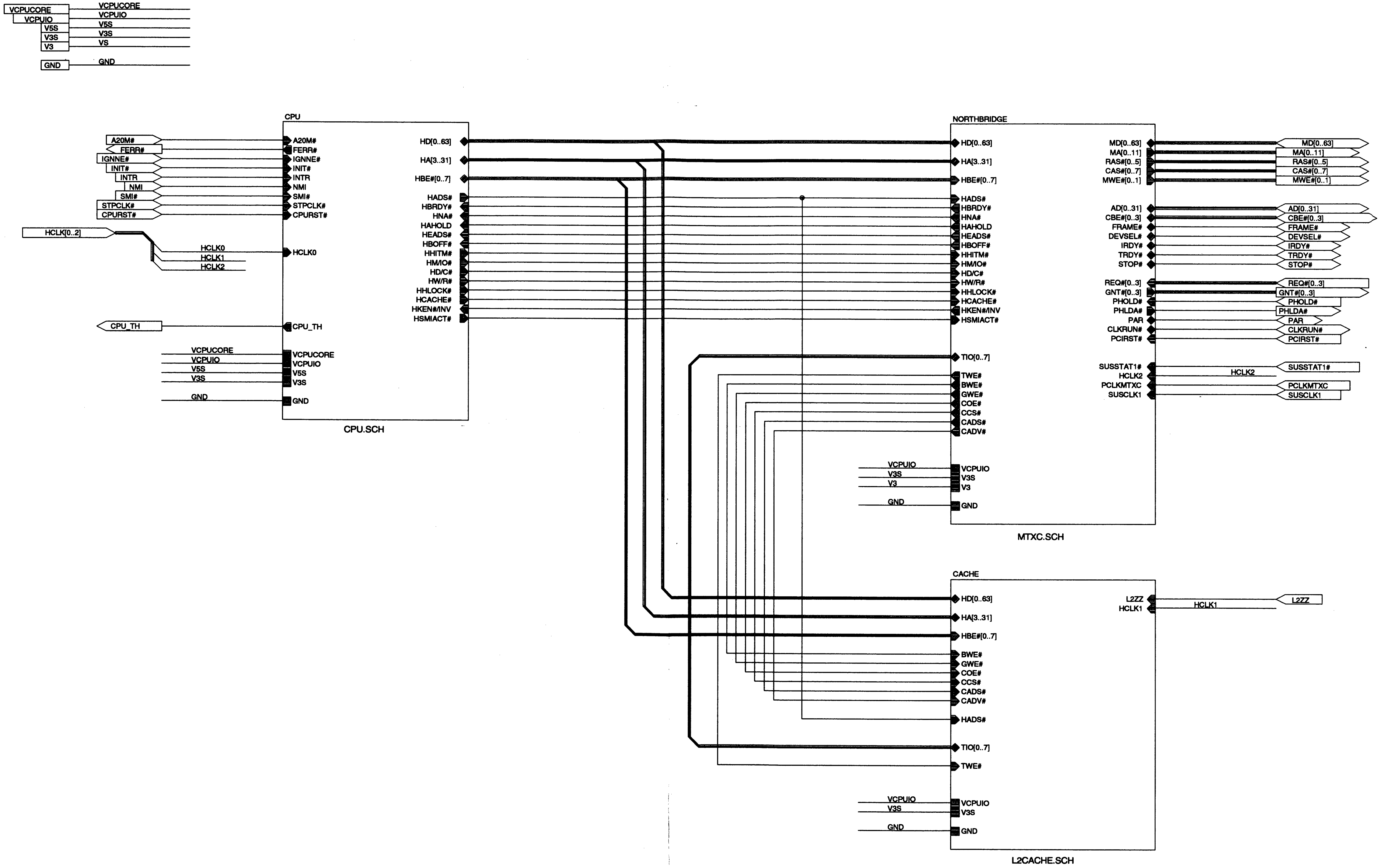

Tag RAM 32K x 8 core 3.3V I/O 2.5V
Pentium MMX 266MHz core 1.8V, I/O 2.5V 320pin TCP
HCLK0
Cache 32K x 32 x2 core 3.3V I/O 2.5V
HCLK1
Host Bus
System Memory EDO 4M X 16bit x 8 3.3V
HCLK2
PCLKMTXC
SUSCLK1
North Bridge Intel 82439TX 3.3V 324pin BGA
HCLK0(66M)
HCLK1(66M)
HCLK2(66M)
CLKUSB(48M)
14.318M
Clock Generator Microclock MIC1492-02 3.3V,2.5V
PCLKMTXC(33M)
PCLKP4(33M)
PCLKVID(33M)
PCLKCB(33M)
CLK14NS(14.318M)
CLK14P4(14.318M)
CLK14VID(14.318M)
SM BUS
11.3" SVGA TFT LCD LQ113S1LH01 3.3V,5V,12V
CCFT INVERTER VAB
LVDS DRIVER NS DS90C363MTD 3.3V 44pin SSOP
CRT
PC CARD SLOT
ZV port
PCLKVID
CLK14VID
SUSCLK
VGA controller NeoMagic NM2160 (include 2MB VRAM) 3.3V 176pin TQFP
PCMCIA POWER SW MIC2562A-1BM 3.3V,5V,12V
PCMCIA controller Ricoh RL5C475A0 3.3V 144pin LQFP
PCLKCB
D/A converter Crystal CS4331 5V 8pin
LED PWB
RTC BATTERY
Li-coin Battery
SHUT SW
SHUT SWITCH
Internal Mic
PCI Bus
USB CONNECTOR
HDD Toshiba HDD2134 4.3GB
South Bridge Intel 82371EB(PIIX4E) with RTC 324pin BGA 3.3V(5V TOLERANCE)
PCLKP4
CLK14P4
CLKUSB
32.768K
SUSCLK(32.768K)
SUSCLK1(32.768K)
BIOS 4M bit EEPROM Atmel AT29F040 5V 32pin PLCC
16.9344M
Audio controller Crystal CS4237B 5V 100pin TQFP
Audio AMP 5V
External Mic
Line OUT
Internal Monaural Speaker
Internal Speaker
ISA Bus
SM BUS
Control
Embedded controller Hitachi H8 5V 100pin PQFP
4MHz
CLK14NS
Super I/O controller NS PC97338VJG 5V 100pin TQFP
RS232C driver/receiver Harris HIS213 5V 28pin TSOP
FDD
PARALLEL
SERIAL
IR
PS/2
8M
Keyboard Controller Mitsubishi M38813 5V 64pin TQFP
36.864M
Depend on destination
Modem controller PCtel PCT388T S/W modem 5V 100pin TQFP
CODEC SGS STLC7546 5V 44pin TQFP
Modem Jack
Modem : only for U,Y,A,C
DC/DC Linear LT1301 5V 8pin SOP
VPP(12V)
DC/DC TOYOTA SB3052P VAB 28pin SSOP
V5S(5V)
V3S(3.3V)
Regulator PST596E Sharp 5pin
VCPUIO (2.5V)
DC/DC TOYOTA SB3030 VAB 16pin SOP
VCPUCORE(1.8V)
VAB
Battery charger Linear Tech LT1511 22V 24pin SOP
VAC(22V)
Regulator NS LP2951CM 8pin SOP
VMCU(4.7V)
Regulator TREX XC62FP3102M
V3(3.1V)
GAUGE PWB
GAUGE IC BENCHMARQ BQ2092
AC Adapter SAMSUNG 22V 1.8A
Internal Battery
3.7Vx1400mAhx4cells 4 SERIES
Connecter PWB
External Battery
GAUGE PWB
GAUGE IC BENCHMARQ BQ2092
3.7Vx1500mAhx8cells 4 SERIES x 2 PARALLEL
FDD PWB
FDD MF355H MITSUBISHI
PARALLEL
SERIAL
PS/2
IR unit 5V
IR PWB
PS/2 PORT
SWITCH PWB
GLIDE POINT ALPS 5V
Keyboard
Powew Line
Signal Line

# CHAPTER4. CIRCUIT DIAGRAM AND PARTS LAYOUT

## PC-A150 U,Y,A,C TOP (REV 1.B)

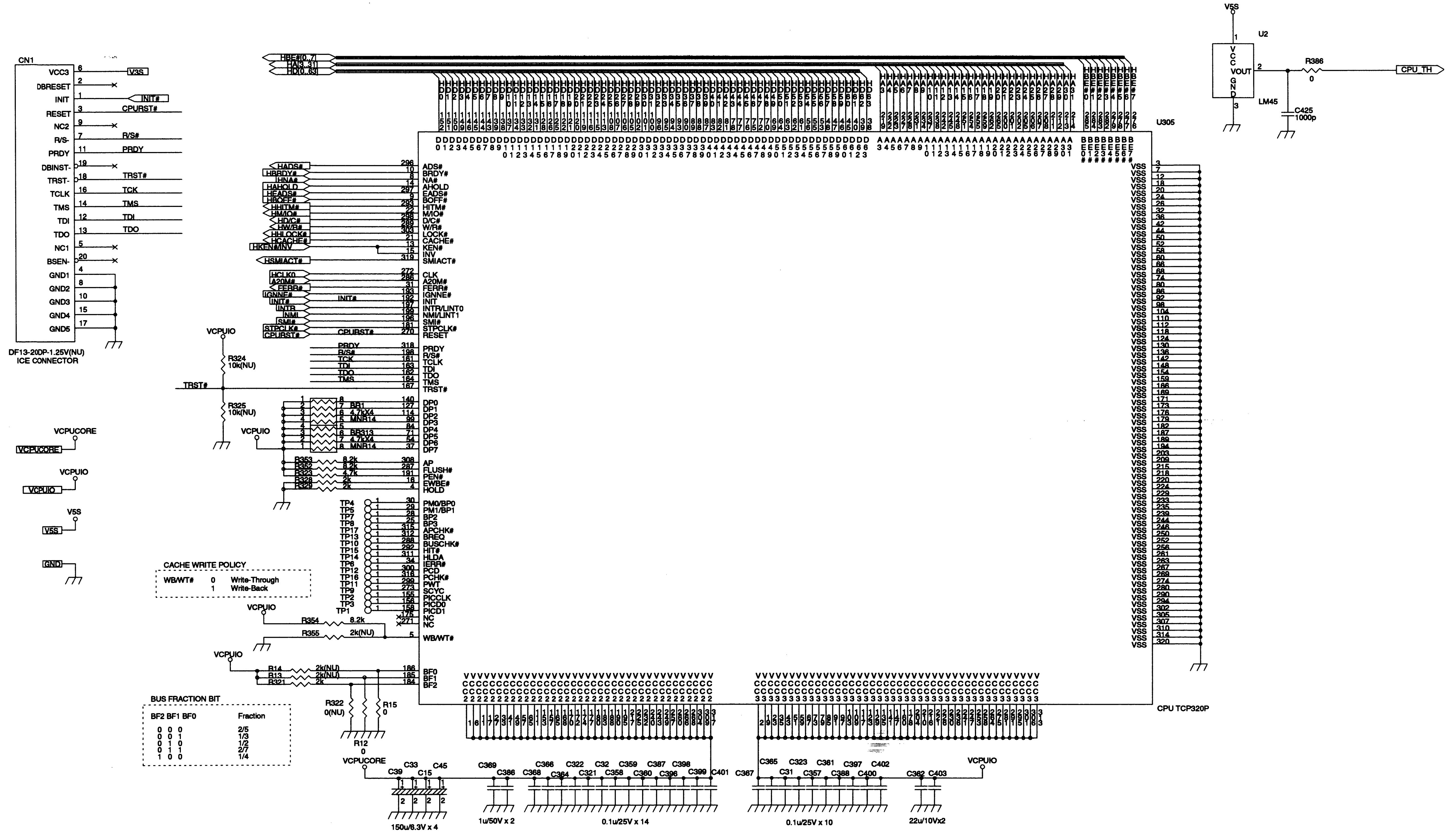

8
7
6
5
4
3
2
1
D
C
B
A
MEMORY
MEMORY.SCH
MMO CONNECTOR
MMOCN.SCH
CLOCK GENERATER
CKGEN.SCH
PIIX4
PIIX4.SCH
IDE & USB
IDEUSB.SCH
BIOS & KEYBOARD
BIOSKBC.SCH
MODEM
MODEM.SCH
VIDEO
VIDEO.SCH
Super I/O
SIO.SCH
AUDIO CONTROLLER
AUDIO.SCH
PC card
PCMCIA.SCH
DC/DC
DCMAIN.SCH
RAS#[0..5]
CAS#[0..7]
MA[0..11]
MWE#[0..1]
MD[0..63]
AD[0..31]
CBE#[0..3]
REQ#[0..3]
GNT#[0..3]
SUSCLK1
CPU_TH
SUSA#/SUSB#
SUSSTAT1#
PDA[0..2]
PDD[0..2]
SD[0..15]
SA[0..19]
IOR#
IOW#
DREQ[0..15]
DACK#[0..7]
IRQ[0..15]
ENIR
WUMDM
PWRGD
ZVY[0..7]
ZVUV[0..7]
PME#
SUSSTAT1#
OCCB#
A_CA6
A_CA7
A_BVD2
A_INPACK#
DOCK#
GATEACPI
GATEACPI#
SUSREQ#
LOWBAT#
ECSUSREQ#
ENAUDIO#
ONSW#
ATFINT#
SMALM#
SYSON#
RSMRST#
VMCU
BRT
VAB
BLON
COVER_SW
HK0
HK1
HK2
HK3
HK5
ECBLON
EMSCLK
EMSDATA
EKBCLK
EKBDATA
FDDVCC
FDDLED#
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
V3S
V5S
VPP
GND

# PC-A150U,Y,A,C I/O TO CPU CONNECTOR (REV 1.B)


VCPUCORE
VCPUIO
V5S
V3S
V3
GND
VCPUCORE
VCPUIO
V5S
V3S
VS
GND
CPU
A20M#
FERR#
IGNNE#
INIT#
INTR
NMI
SMI#
STPCLK#
CPURST#
HCLK[0..2]
HCLK0
HCLK1
HCLK2
HCLK0
CPU_TH
CPU_TH
VCPUCORE
VCPUIO
V5S
V3S
GND
HD[0..63]
HA[3..31]
HBE#[0..7]
HADS#
HBRDY#
HNA#
HAHOLD
HEADS#
HBOFF#
HHITM#
HM/IO#
HD/C#
HW/R#
HHLOCK#
HCACHE#
HKEN#/INV
HSMIACT#
CPU.SCH
NORTHBRIDGE
HD[0..63]
HA[3..31]
HBE#[0..7]
HADS#
HBRDY#
HNA#
HAHOLD
HEADS#
HBOFF#
HHITM#
HM/IO#
HD/C#
HW/R#
HHLOCK#
HCACHE#
HKEN#/INV
HSMIACT#
TIO[0..7]
TWE#
BWE#
GWE#
COE#
CCS#
CADS#
CADV#
VCPUIO
V3S
V3
GND
MD[0..63]
MA[0..11]
RAS#[0..5]
CAS#[0..7]
MWE#[0..1]
AD[0..31]
CBE#[0..3]
FRAME#
DEVSEL#
IRDY#
TRDY#
STOP#
REQ#[0..3]
GNT#[0..3]
PHOLD#
PHLDA#
PAR
CLKRUN#
PCIRST#
SUSSTAT1#
HCLK2
PCLKMTXC
SUSCLK1
MTXC.SCH
MD[0..63]
MA[0..11]
RAS#[0..5]
CAS#[0..7]
MWE#[0..1]
AD[0..31]
CBE#[0..3]
FRAME#
DEVSEL#
IRDY#
TRDY#
STOP#
REQ#[0..3]
GNT#[0..3]
PHOLD#
PHLDA#
PAR
CLKRUN#
PCIRST#
HCLK2
SUSSTAT1#
PCLKMTXC
SUSCLK1
VCPUIO
V3S
V3
GND
CACHE
HD[0..63]
HA[3..31]
HBE#[0..7]
BWE#
GWE#
COE#
CCS#
CADS#
CADV#
HADS#
TIO[0..7]
TWE#
VCPUIO
V3S
GND
L2ZZ
HCLK1
HCLK1
L2ZZ
VCPUIO
V3S
GND
L2CACHE.SCH

U-C02.DSF

# PC-A150U,Y,A,C TILLAMOOK (REV 1.B)


CN1
VCC3
DBRESET
INIT
RESET
NC2
R/S-
PRDY
DBINST-
TRST-
TCLK
TMS
TDI
TDO
NC1
BSEN-
GND1
GND2
GND3
GND4
GND5
V3S
INIT#
CPURST#
R/S#
PRDY
TRST#
TCK
TMS
TDI
TDO
DF13-20DP-1.25V(NU)
ICE CONNECTOR
VCPUCORE
VCPUIO
V5S
GND
HBE#[0..7]
HA[3..31]
HD[0..63]
HADS#
HBRDY#
HNA#
HAHOLD
HEADS#
HBOFF#
HHITM#
HM/IO#
HD/C#
HW/R#
HHLOCK#
HCACHE#
HKEN#/INV
HSMIACT#
HCLK0
A20M#
FERR#
IGNNE#
INIT#
INTR
NMI
SMI#
STPCLK#
CPURST#
R324
10k(NU)
R325
10k(NU)
TRST#
BR1
4.7kX4
MNR14
BR313
4.7kX4
MNR14
R353 8.2k
R352 8.2k
R323 4.7k
R328 2k
R329 2k
TP4
TP5
TP7
TP8
TP17
TP13
TP10
TP15
TP14
TP6
TP12
TP16
TP11
TP9
TP2
TP3
TP1
R354 8.2k
R355 2k(NU)
R14 2k(NU)
R13 2k(NU)
R321 2k
R322
0(NU)
R15
0
R12
0
ADS#
BRDY#
NA#
AHOLD
EADS#
BOFF#
HITM#
M/IO#
D/C#
W/R#
LOCK#
CACHE#
KEN#
INV
SMIACT#
CLK
A20M#
FERR#
IGNNE#
INIT
INTR/LINT0
NMI/LINT1
SMI#
STPCLK#
RESET
PRDY
R/S#
TCLK
TDI
TDO
TMS
TRST#
DP0
DP1
DP2
DP3
DP4
DP5
DP6
DP7
AP
FLUSH#
PEN#
EWBE#
HOLD
PM0/BP0
PM1/BP1
BP2
BP3
APCHK#
BREQ
BUSCHK#
HIT#
HLDA
IERR#
PCD
PCHK#
PWT
SCYC
PICCLK
PICD0
PICD1
NC
NC
WB/WT#
BF0
BF1
BF2
VSS
U305
CPU TCP320P
V5S
U2
VCC
VOUT
GND
LM45
R386
0
C425
1000p
CPU_TH
VCPUCORE
C39
C33
C15
C45
150u/6.3V x 4
C369
C386
1u/50V x 2
C368
C366
C364
C322
C321
C32
C358
C359
C360
C387
C396
C398
C399
C401
0.1u/25V x 14
C367
C365
C31
C323
C357
C361
C388
C397
C400
C402
0.1u/25V x 10
C362
C403
22u/10Vx2
VCPUIO

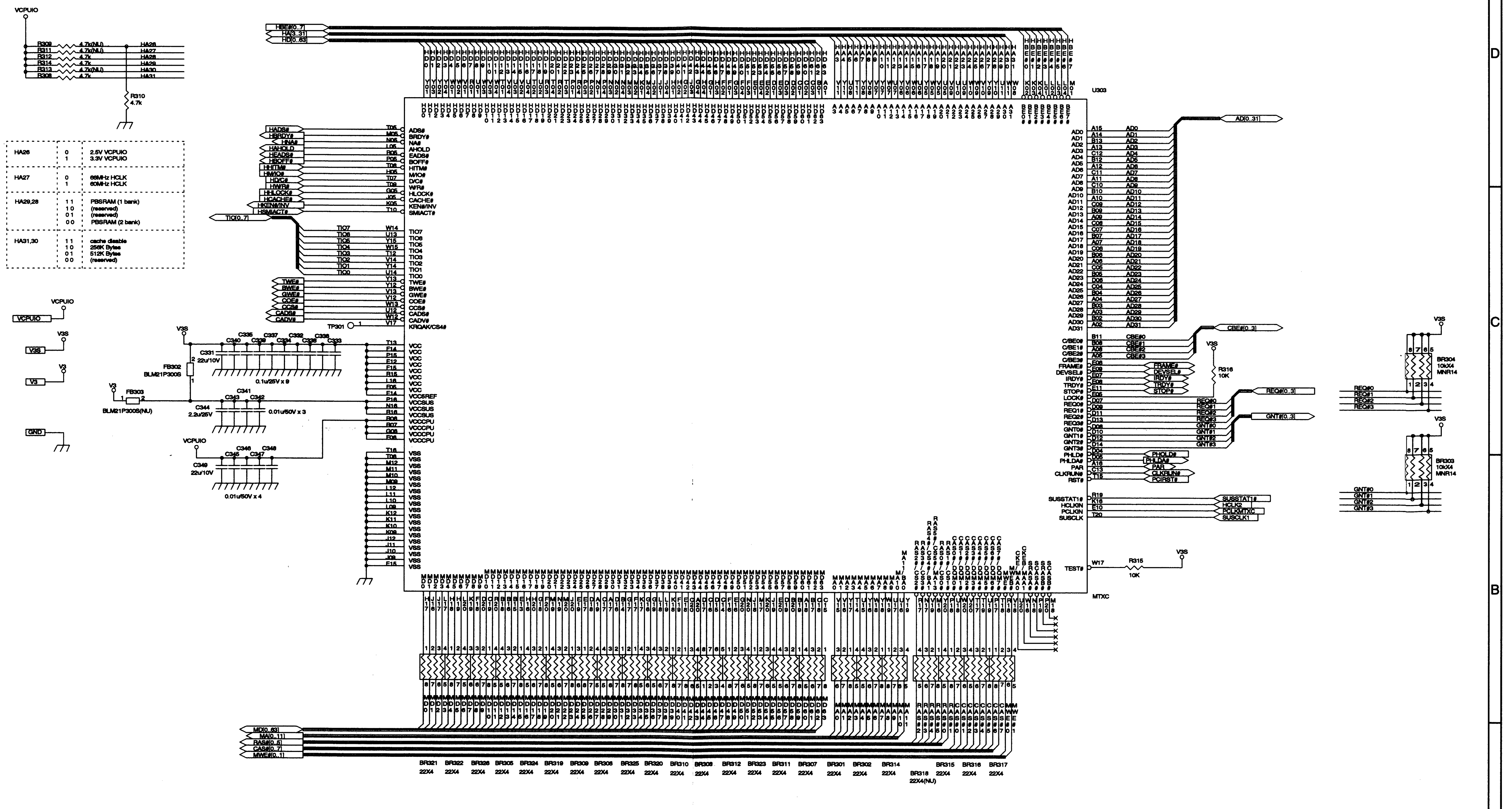
CACHE WRITE POLICY

| | | |
|---|---|---|
| WB/WT# | 0 | Write-Through |
| | 1 | Write-Back |

BUS FRACTION BIT

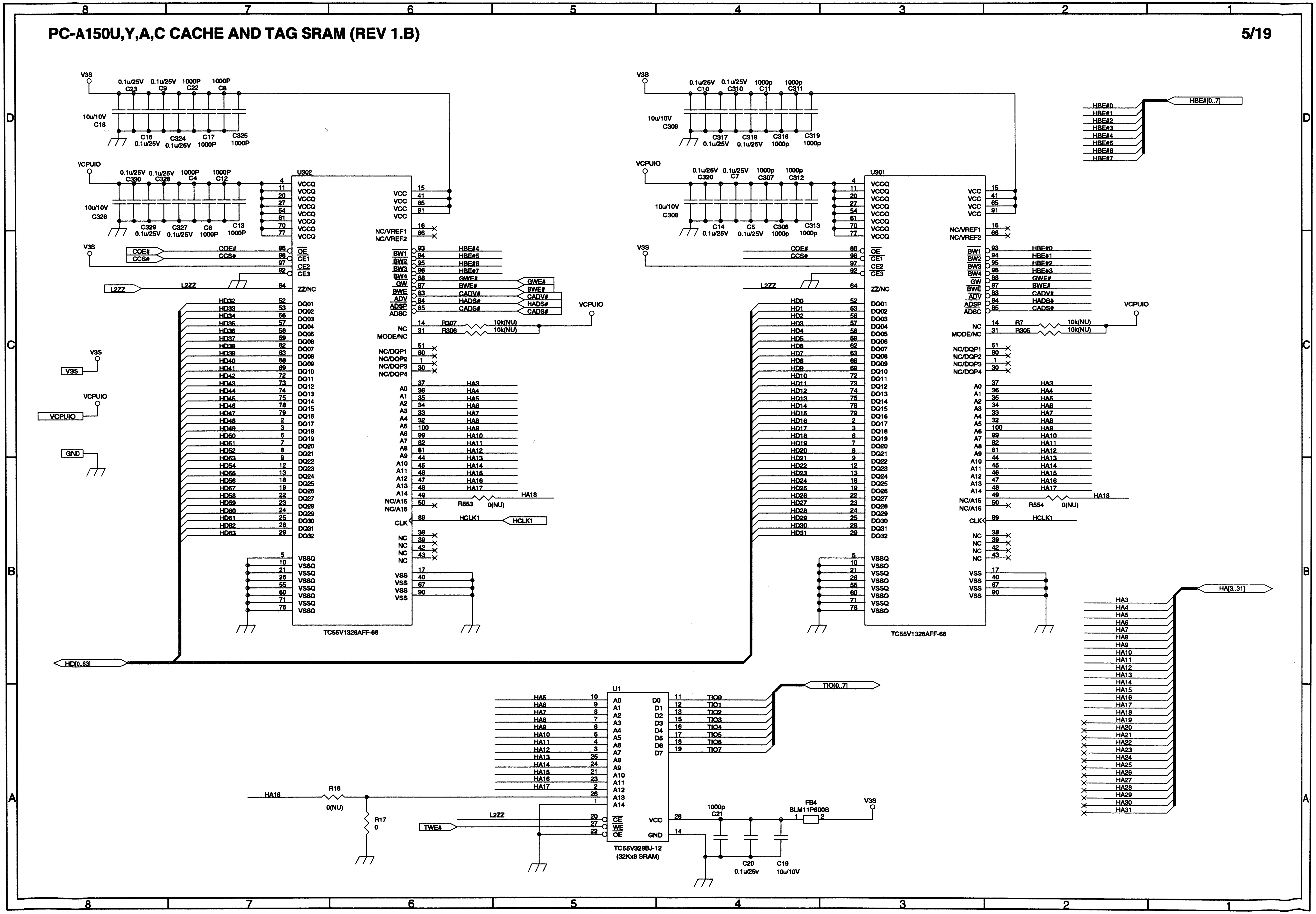
| BF2 | BF1 | BF0 | Fraction |
|---|---|---|---|
| 0 | 0 | 0 | 2/5 |
| 0 | 0 | 1 | 1/3 |
| 0 | 1 | 0 | 1/2 |
| 0 | 1 | 1 | 2/7 |
| 1 | 0 | 0 | 1/4 |

# PC-A150U,Y,A,C Northbridge (REV 1.B)


VCPUIO
R309 4.7k(NU) HA26
R311 4.7k(NU) HA27
R312 4.7k HA28
R314 4.7k HA29
R313 4.7k(NU) HA30
R308 4.7k HA31
R310 4.7k
HBE#[0..7]
HA[3..31]
HD[0..63]
U303
HADS#
HBRDY#
HNA#
HAHOLD
HEADS#
HBOFF#
HHITM#
HM/IO#
HD/C#
HW/R#
HHLOCK#
HCACHE#
HKEN#/INV
HSMIACT#
TIO[0..7]
TWE#
BWE#
GWE#
COE#
CCS#
CADS#
CADV#
TP301
VCPUIO
V3S
V3
GND
C331 22u/10V
C340 C335 C339 C337 C334 C332 C338 C336 C333
0.1u/25V x 9
FB302 BLM21P300S
FB303 BLM21P300S(NU)
C341 C343 C342
C344 2.2u/25V
0.01u/50V x 3
C345 C348 C346 C347
C349 22u/10V
0.01u/50V x 4
VCC
VCCSREF
VCCSUS
VCCCPU
VSS
AD[0..31]
CBE#[0..3]
FRAME#
DEVSEL#
IRDY#
TRDY#
STOP#
LOCK#
REQ#[0..3]
GNT#[0..3]
PHOLD#
PHLDA#
PAR
CLKRUN#
PCIRST#
RST#
SUSSTAT1#
HCLK2
PCLKMTXC
SUSCLK1
HCLKIN
PCLKIN
SUSCLK
TEST#
R316 10K
R315 10K
MTXC
BR304 10KX4 MNR14
BR303 10KX4 MNR14
REQ#0
REQ#1
REQ#2
REQ#3
GNT#0
GNT#1
GNT#2
GNT#3
MD[0..63]
MA[0..11]
RAS#[0..5]
CAS#[0..7]
MWE#[0..1]
BR321 22X4
BR322 22X4
BR326 22X4
BR305 22X4
BR324 22X4
BR319 22X4
BR309 22X4
BR306 22X4
BR325 22X4
BR320 22X4
BR310 22X4
BR308 22X4
BR312 22X4
BR323 22X4
BR311 22X4
BR307 22X4
BR301 22X4
BR302 22X4
BR314 22X4
BR318 22X4(NU)
BR315 22X4
BR316 22X4
BR317 22X4
8 7 6 5 4 3 2 1
D C B A

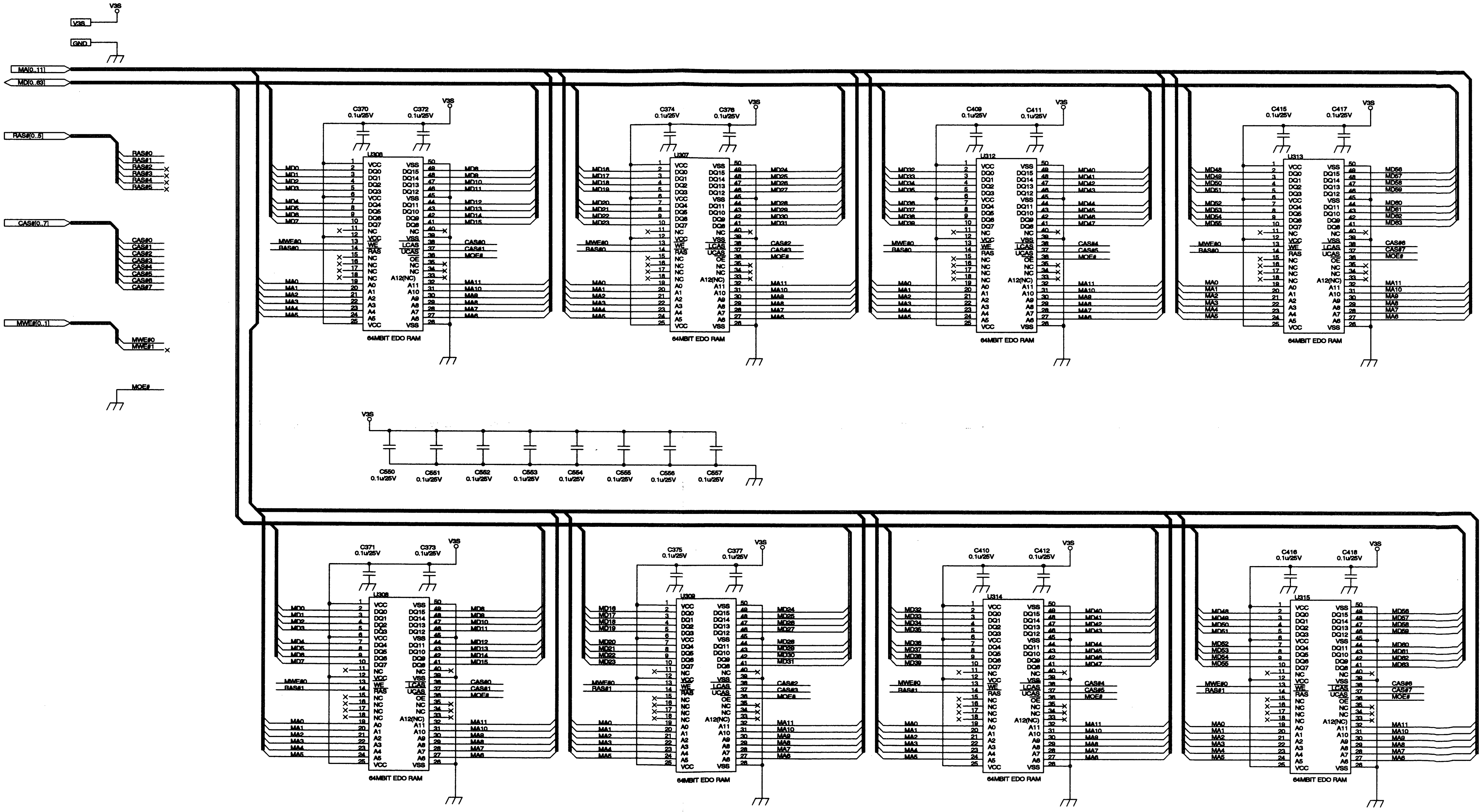
| | | |
|---|---|---|
| HA26 | 0<br>1 | 2.5V VCPUIO<br>3.3V VCPUIO |
| HA27 | 0<br>1 | 66MHz HCLK<br>60MHz HCLK |
| HA29,28 | 1 1<br>1 0<br>0 1<br>0 0 | PBSRAM (1 bank)<br>(reserved)<br>(reserved)<br>PBSRAM (2 bank) |
| HA31,30 | 1 1<br>1 0<br>0 1<br>0 0 | cache disable<br>256K Bytes<br>512K Bytes<br>(reserved) |

# PC-A150U,Y,A,C CACHE AND TAG SRAM (REV 1.B)

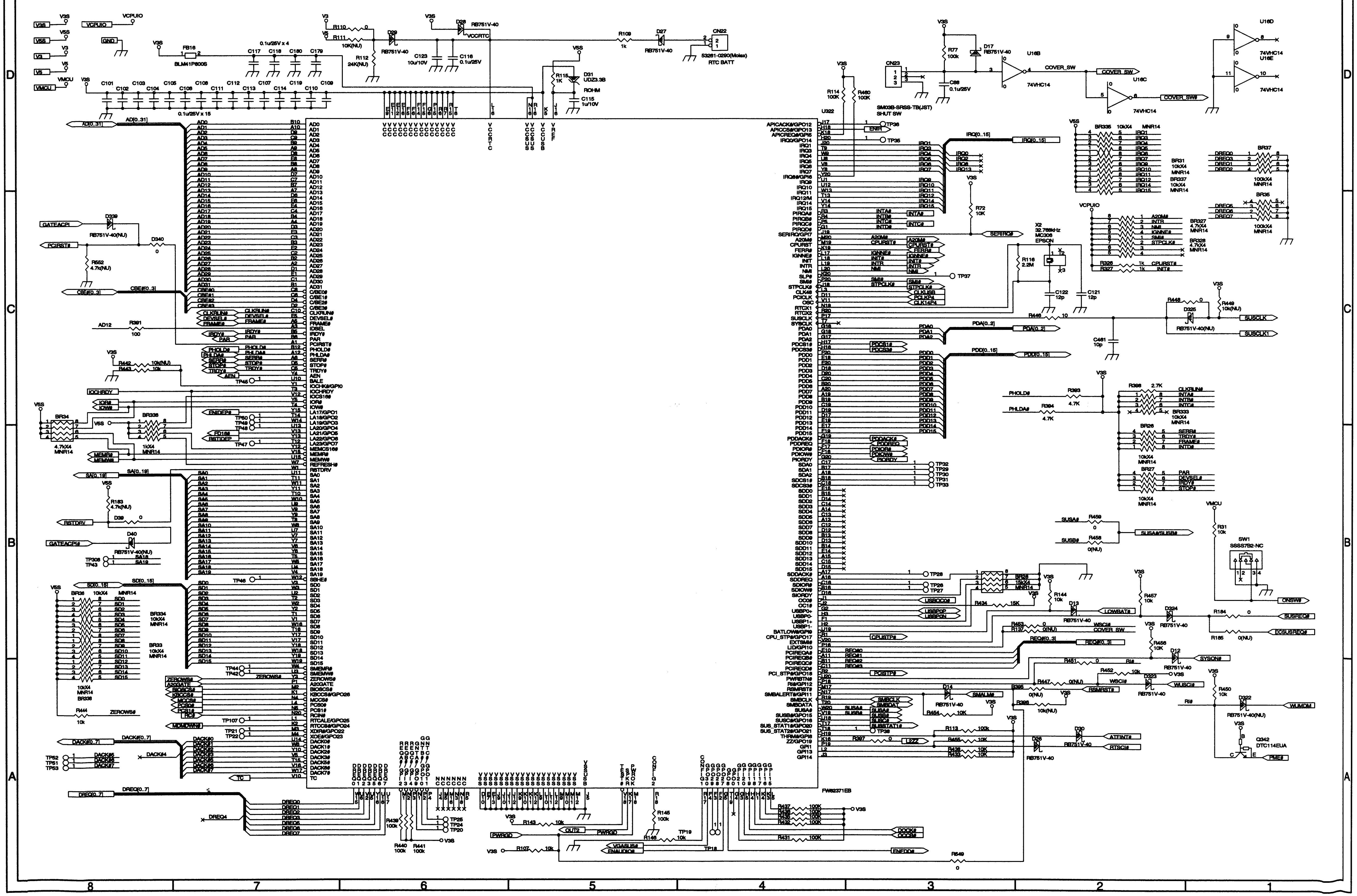


V3S
VCPUIO
GND
10u/10V
C18
C23 C9 C22 C8
C16 C324 C17 C325
C330 C328 C4 C12
C326
C329 C327 C6 C13
0.1u/25V
1000P
U302
TC55V1326AFF-66
U301
TC55V1326AFF-66
VCCQ
VCC
NC/VREF1
NC/VREF2
OE
CE1
CE2
CE3
ZZ/NC
BW1
BW2
BW3
BW4
GW
BWE
ADV
ADSP
ADSC
NC
MODE/NC
NC/DQP1
NC/DQP2
NC/DQP3
NC/DQP4
DQ01 … DQ32
A0 … A14
NC/A15
NC/A16
CLK
VSSQ
VSS
COE#
CCS#
L2ZZ
HBE#4 HBE#5 HBE#6 HBE#7
HBE#0 HBE#1 HBE#2 HBE#3
HBE#[0..7]
GWE#
BWE#
CADV#
HADS#
CADS#
R307 10k(NU)
R306 10k(NU)
R7 10k(NU)
R305 10k(NU)
R553 0(NU)
R554 0(NU)
HA18
HCLK1
HD32 … HD63
HD0 … HD31
HD[0..63]
HA3 … HA17
HA[3..31]
C10 C310 C11 C311
C309
C317 C318 C316 C319
C320 C7 C307 C312
C308
C14 C5 C306 C313
1000p
U1
TC55V328BJ-12
(32Kx8 SRAM)
A0 … A14
D0 … D7
TIO0 … TIO7
TIO[0..7]
CE
WE
OE
VCC
GND
R16
0(NU)
R17
0
TWE#
C21
1000p
C20
0.1u/25v
C19
10u/10V
FB4
BLM11P600S

# PC-A150U,Y,A,C MAIN MEMORY EDO 64MB (REV 1.B)

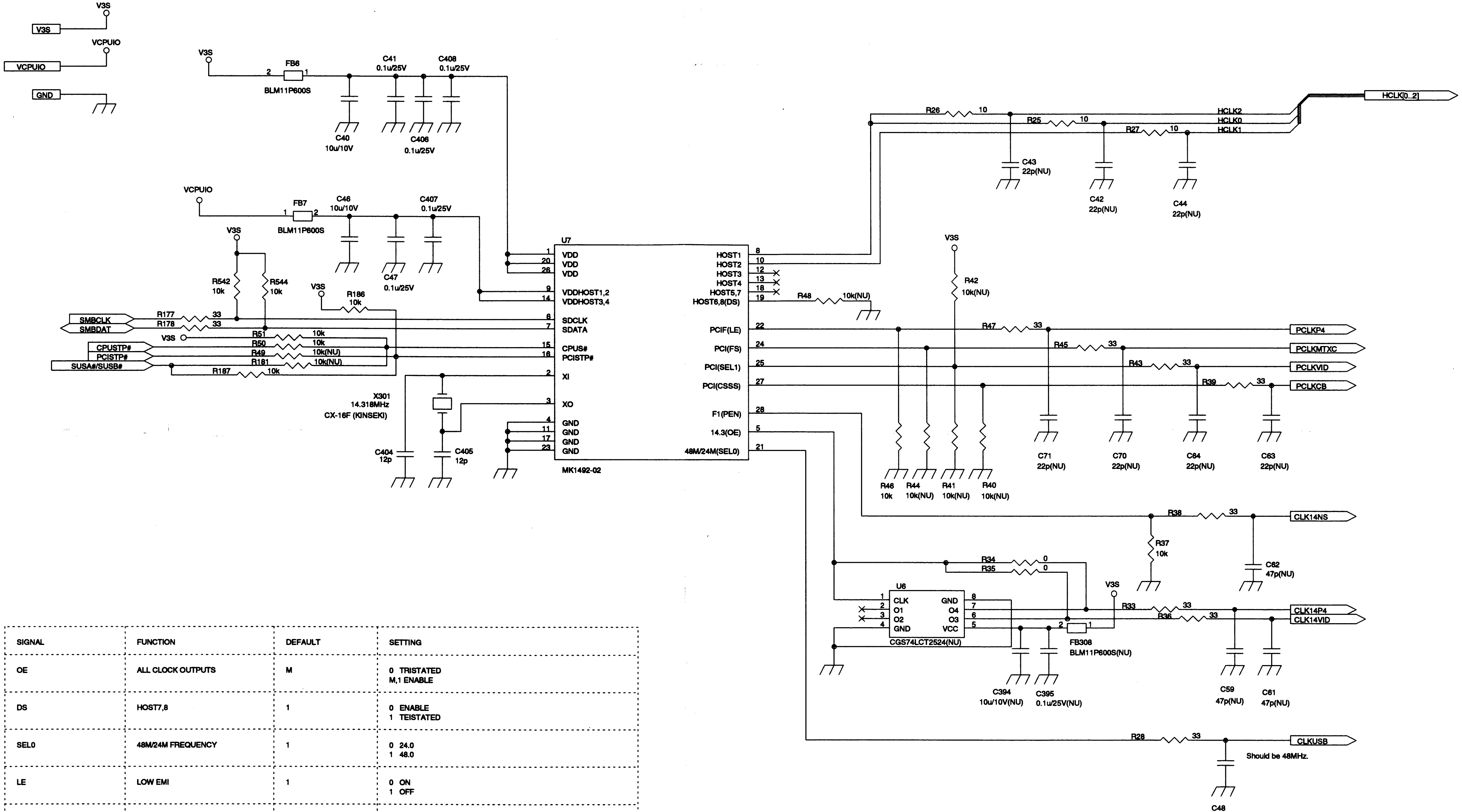

V3S
GND
MA[0..11]
MD[0..63]
RAS#[0..5]
RAS#0
RAS#1
RAS#2
RAS#3
RAS#4
RAS#5
CAS#[0..7]
CAS#0
CAS#1
CAS#2
CAS#3
CAS#4
CAS#5
CAS#6
CAS#7
MWE#[0..1]
MWE#0
MWE#1
MOE#
C370
C372
C374
C376
C409
C411
C415
C417
C371
C373
C375
C377
C410
C412
C416
C418
0.1u/25V
U306
U307
U312
U313
U308
U309
U314
U315
VCC
VSS
DQ0
DQ1
DQ2
DQ3
DQ4
DQ5
DQ6
DQ7
DQ8
DQ9
DQ10
DQ11
DQ12
DQ13
DQ14
DQ15
NC
WE
RAS
LCAS
UCAS
OE
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12(NC)
MA0
MA1
MA2
MA3
MA4
MA5
MA6
MA7
MA8
MA9
MA10
MA11
64MBIT EDO RAM
C550
C551
C552
C553
C554
C555
C556
C557
8
7
6
5
4
3
2
1
D
C
B
A

# PC-A150U,Y,A,C South Bridge (PIIX4E) (REV 1.B)



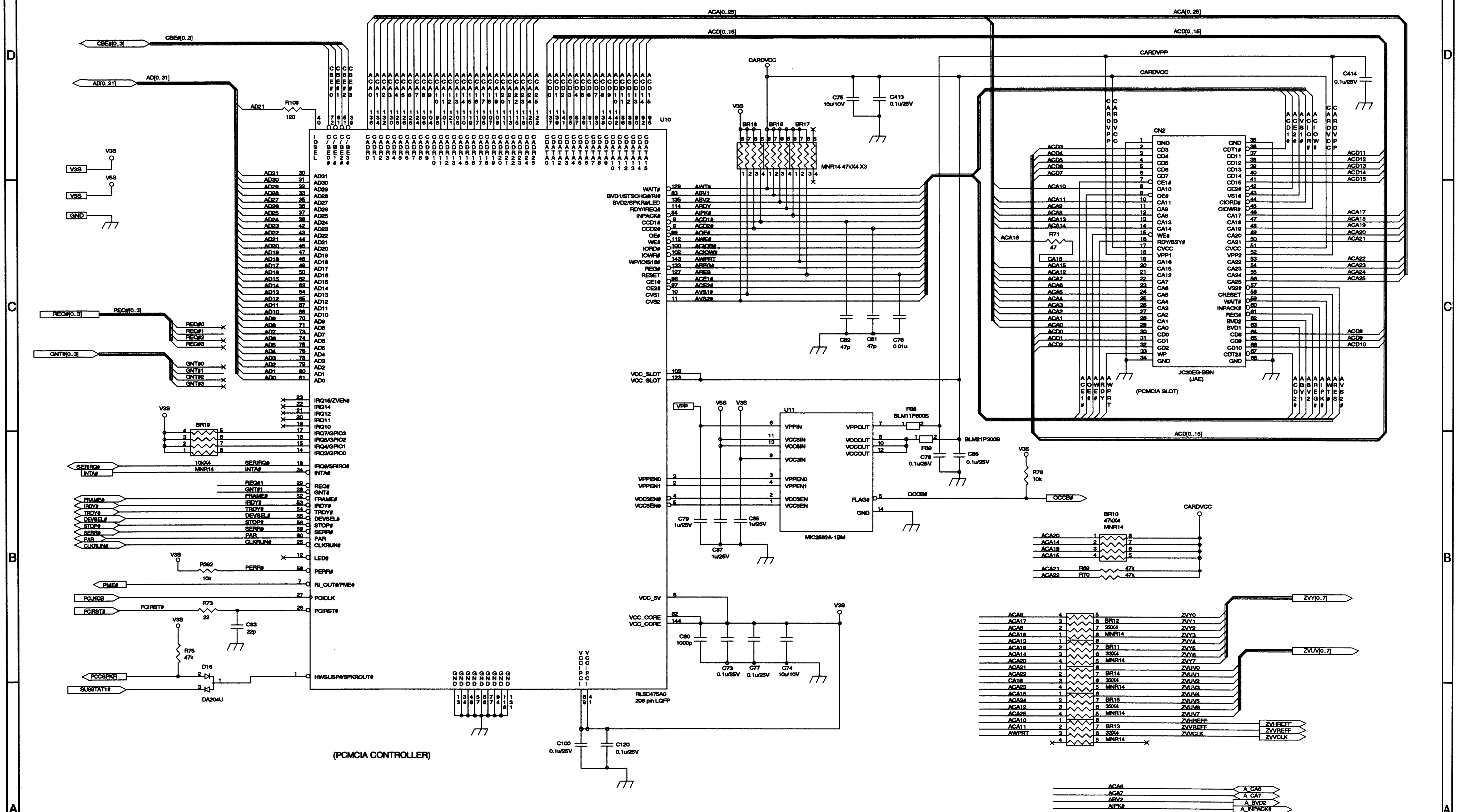
V3S
V5S
V3
V5
VMCU
VCPUIO
GND
FB16
BLM41P600S
0.1u/25V x 4
0.1u/25V x 15
C117
C118
C180
C179
R110
R111
10K(NU)
R112
24K(NU)
D29
RB751V-40
D28
RB751V-40
VCCRTC
C123
10u/10V
C116
0.1u/25V
R109
1k
D27
RB751V-40
CN22
53261-0290(Molex)
RTC BATT
R115
1K
D31
UDZ3.3B
ROHM
C115
1u/10V
R77
100k
D17
RB751V-40
U16B
74VHC14
COVER_SW
U16C
COVER_SW#
U16D
U16E
CN23
C88
0.1u/25V
SM03B-SRSS-TB(JST)
SHUT SW
U322
R114
100K
R460
100K
AD[0..31]
CBE#[0..3]
GATEACPI
D339
RB751V-40(NU)
D340
PCIRST#
R552
4.7k(NU)
AD12
R391
100
CLKRUN#
DEVSEL#
FRAME#
IRDY#
PAR
PHOLD#
PHLDA#
SERR#
STOP#
TRDY#
AEN
R442
R443
10k(NU)
10k
IOCHRDY
IOR#
IOW#
BR34
4.7kX4
MNR14
BR338
1kX4
MNR14
ENIDEP#
PD16#
RSTIDEP
MEMR#
MEMW#
SA[0..19]
R183
4.7k(NU)
RSTDRV
D39
GATEACPI#
D40
RB751V-40(NU)
SD[0..15]
BR36
10kX4
MNR14
BR334
BR33
ZEROWS#
A20GATE
BIOSCS#
KBCCS#
MCCS#
PCS0#
PCS1#
RC#
MDMDWN#
R444
10k
DACK#[0..7]
DACK#4
DREQ[0..7]
DREQ4
R439
100k
R440
100k
R441
100k
TP25
TP24
TP20
PWRGD
OUT2
R143
10k
R107
10k
VGASUS#
ENAUDIO#
R146
TP19
10k
TP18
R145
100k
R437
R436
R435
R432
R431
100K
DOCK#
CCCS#
ENFDD#
R549
0
FW82371EB
APICACK#/GPO12
APICCS#/GPO13
APICREQ#/GPI5
IRQ0/GPO14
ENIR
TP36
TP35
IRQ[0..15]
BR335
10kX4
MNR14
BR31
BR337
BR37
BR35
100kX4
MNR14
DREQ0
DREQ1
DREQ2
DREQ3
DREQ5
DREQ6
DREQ7
R72
10K
SERIRQ#
INTA#
INTB#
INTC#
INTD#
A20M#
CPURST#
FERR#
IGNNE#
INIT#
INTR
NMI
SMI#
STPCLK#
CLK48
PCICLK
OSC
X2
32.768kHz
MC306
EPSON
R116
2.2M
C122
12p
C121
12p
R446
10
C461
10p
R448
0
D325
RB751V-40(NU)
R449
10k(NU)
SUSCLK
SUSCLK1
PDA[0..2]
PDCS1#
PDCS3#
PDD[0..15]
PHOLD#
PHLDA#
R393
R394
4.7K
R398
2.7K
BR333
10kX4
MNR14
BR26
BR27
PDDACK#
PDDREQ
PDIOR#
PDIOW#
PIORDY
TP32
TP29
TP30
TP31
TP33
SUSA#
SUSB#
R459
R458
0(NU)
SUSA#/SUSB#
R31
10k
SW1
SSSS7B2-NC
ONSW#
TP28
TP26
TP27
BR28
15kX4
MNR14
R144
10k
USBOC0#
USBP0P
USBP0N
R434
15K
D13
LOWBAT#
R457
10k
D324
RB751V-40
R184
0
SUSREQ#
R185
0(NU)
ECSUSREQ#
R453
R137
0(NU)
WSCI#
COVER_SW
CPUSTP#
REQ[0..3]
R456
10K
D12
SYSON#
R451
R452
10k
D323
WUSCI#
PCISTP#
R447
0(NU)
RSMRST#
D14
RB751V-40
SMALM#
SMBCLK
SMBDAT
R454
R395
R396
10k(NU)
R450
10k
D322
RB751V-40(NU)
RI#
WUMDM
SUSB#
SUSC#
SUSSTAT1#
TP38
R113
100k
D30
ATFINT#
R397
0
L2ZZ
R455
D26
RB751V-40
RTCSCI#
R438
R433
10K
Q342
DTC114EUA
PME#

# PC-A150U,Y,A,C CLOCK GENERATOR AND DRIVER (REV 1.B)

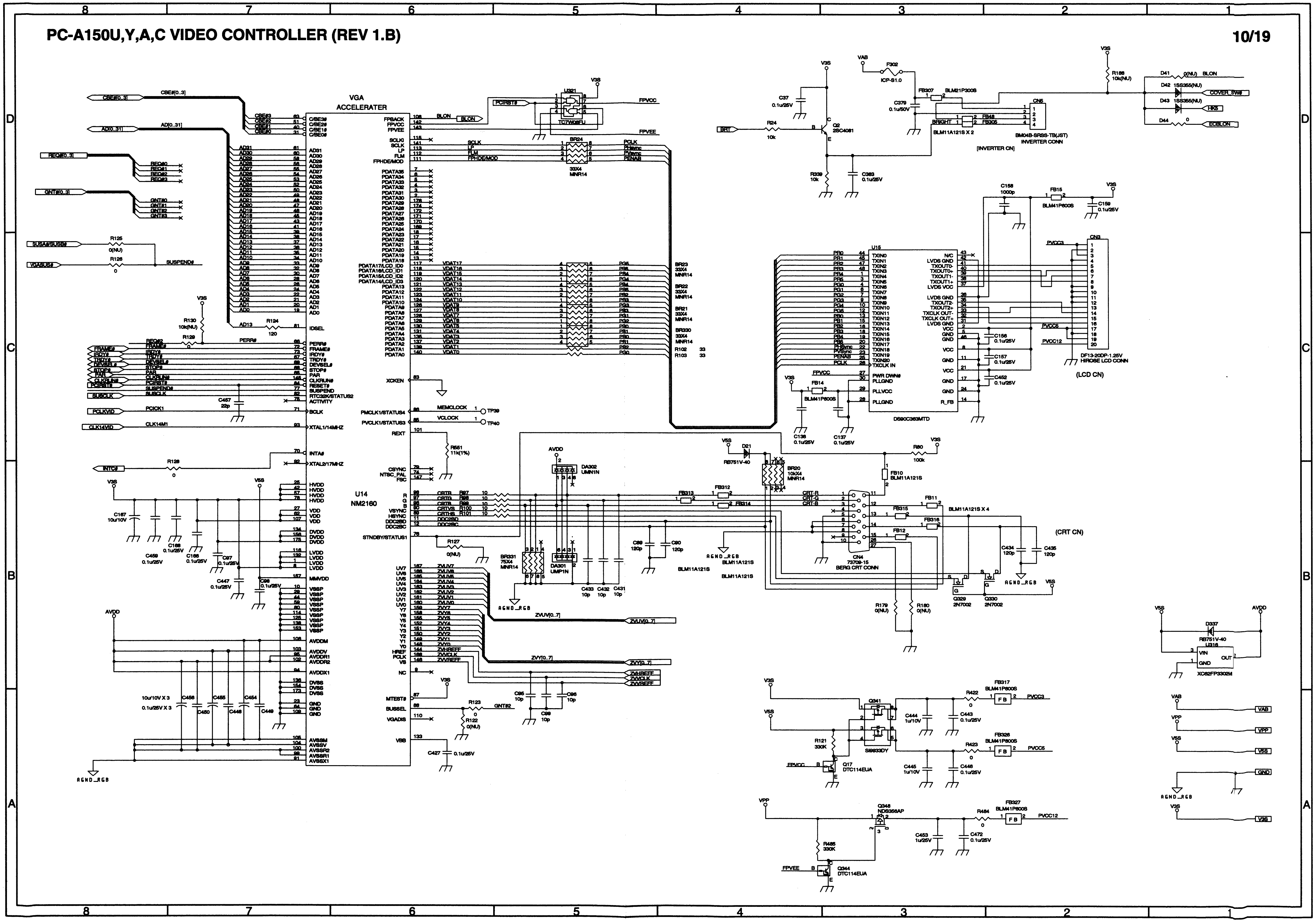

V3S
VCPUIO
GND
V3S
FB6
2
1
BLM11P600S
C41
0.1u/25V
C408
0.1u/25V
C40
10u/10V
C406
0.1u/25V
VCPUIO
FB7
1
2
BLM11P600S
C46
10u/10V
C407
0.1u/25V
C47
0.1u/25V
V3S
R542
10k
R544
10k
V3S
R186
10k
SMBCLK
SMBDAT
R177
33
R178
33
V3S
R51
10k
CPUSTP#
PCISTP#
SUSA#/SUSB#
R50
10k
R49
10k(NU)
R181
10k(NU)
R187
10k
X301
14.318MHz
CX-16F (KINSEKI)
C404
12p
C405
12p
U7
VDD
VDD
VDD
VDDHOST1,2
VDDHOST3,4
SDCLK
SDATA
CPUS#
PCISTP#
XI
XO
GND
GND
GND
GND
MK1492-02
HOST1
HOST2
HOST3
HOST4
HOST5,7
HOST6,8(DS)
PCIF(LE)
PCI(FS)
PCI(SEL1)
PCI(CSSS)
F1(PEN)
14.3(OE)
48M/24M(SEL0)
R48
10k(NU)
R26
10
R25
10
R27
10
HCLK2
HCLK0
HCLK1
HCLK[0..2]
C43
22p(NU)
C42
22p(NU)
C44
22p(NU)
V3S
R42
10k(NU)
R47
33
R45
33
R43
33
R39
33
PCLKP4
PCLKMTXC
PCLKVID
PCLKCB
R46
10k
R44
10k(NU)
R41
10k(NU)
R40
10k(NU)
C71
22p(NU)
C70
22p(NU)
C64
22p(NU)
C63
22p(NU)
R38
33
CLK14NS
R37
10k
C62
47p(NU)
R34
0
R35
0
U6
CLK
O1
O2
GND
GND
O4
O3
VCC
CGS74LCT2524(NU)
V3S
FB308
BLM11P600S(NU)
R33
33
R36
33
CLK14P4
CLK14VID
C394
10u/10V(NU)
C395
0.1u/25V(NU)
C59
47p(NU)
C61
47p(NU)
R28
33
CLKUSB
Should be 48MHz.
C48
22p(NU)

| SIGNAL | FUNCTION | DEFAULT | SETTING |
|---|---|---|---|
| OE | ALL CLOCK OUTPUTS | M | 0 TRISTATED<br>M,1 ENABLE |
| DS | HOST7,8 | 1 | 0 ENABLE<br>1 TEISTATED |
| SEL0 | 48M/24M FREQUENCY | 1 | 0 24.0<br>1 48.0 |
| LE | LOW EMI | 1 | 0 ON<br>1 OFF |
| CPUS#/CSSS/FS | HOST/PCI FREQUENCY | 1/1/1 | 1/X/0 60.0(OE=M) 50.0(OE=1)<br>1/X/1 66.6(OE=M) 75.0(OE=1)<br>M/0/X 33.33(OE=M) 33.33(OE=1) |
| SEL1 | F1 FREQUENCY | M | 0 PCI<br>M 14.318<br>1 24.0 |
| PEN | PCIF ENABLE | M | 0 Pin25=PCI Pin24=PCI<br>M Pin25=PCI Pin24=PCIF<br>1 Pin25=PCIF Pin24=PCIF |

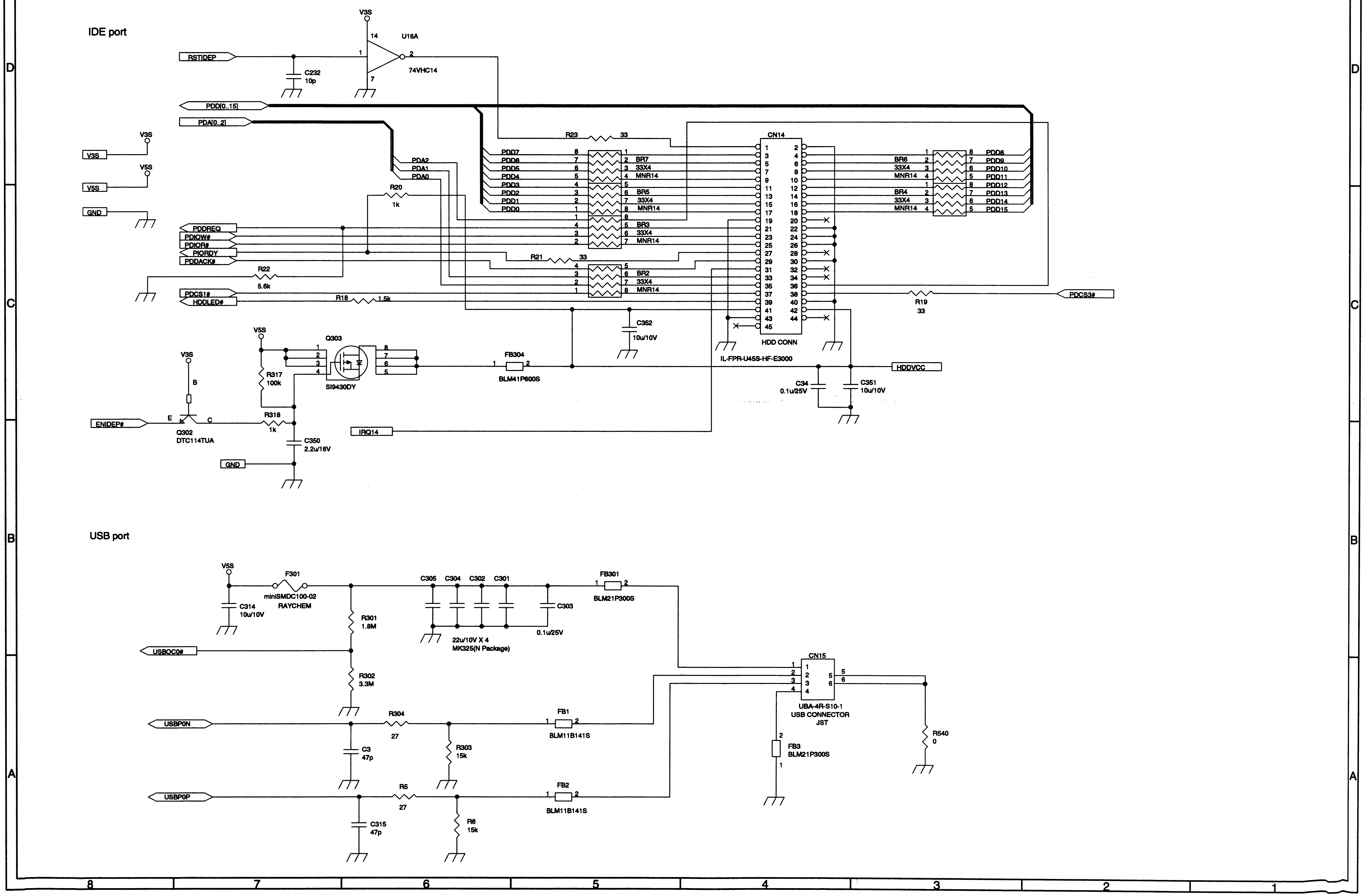
# PC-A100U,Y,A,C PCMCIA CONTROLLER (REV 1.B)


CBE#[0..3]
AD[0..31]
V3S
V5S
GND
REQ#[0..3]
GNT#[0..3]
SERIRQ#
INTA#
FRAME#
IRDY#
TRDY#
DEVSEL#
STOP#
SERR#
PAR
CLKRUN#
PME#
PCLKCB
PCIRST#
PCCSPKR
SUSSTAT1#
R108 120
BR19 10kX4 MNR14
R392 10k
R73 22
C83 22p
R75 47k
D16 DA204U
U10
RL5C475A0
208 pin LQFP
(PCMCIA CONTROLLER)
ACA[0..25]
ACD[0..15]
CARDVCC
CARDVPP
C75 10u/10V
C413 0.1u/25V
C414 0.1u/25V
BR18 BR16 BR17
MNR14 47kX4 X3
C82 47p
C81 47p
C76 0.01u
CN2
JC20EG-BBN (JAE)
(PCMCIA SLOT)
R71 47
VPP
U11
MIC2562A-1BM
FB8 BLM11P600S
FB9 BLM21P300S
C78 0.1u/25V
C86 0.1u/25V
R76 10k
OCCB#
C79 1u/25V
C85 1u/25V
C87 1u/25V
C80 1000p
C73 0.1u/25V
C77 0.1u/25V
C74 10u/10V
C100 0.1u/25V
C120 0.1u/25V
BR10 47kX4 MNR14
R69 47k
R70 47k
BR12 33X4 MNR14
BR11 33X4 MNR14
BR14 33X4 MNR14
BR15 33X4 MNR14
BR13 33X4 MNR14
ZVY[0..7]
ZVUV[0..7]
ZVHREFF
ZVVREFF
ZVVCLK
A_CA6
A_CA7
A_BVD2
A_INPACK#

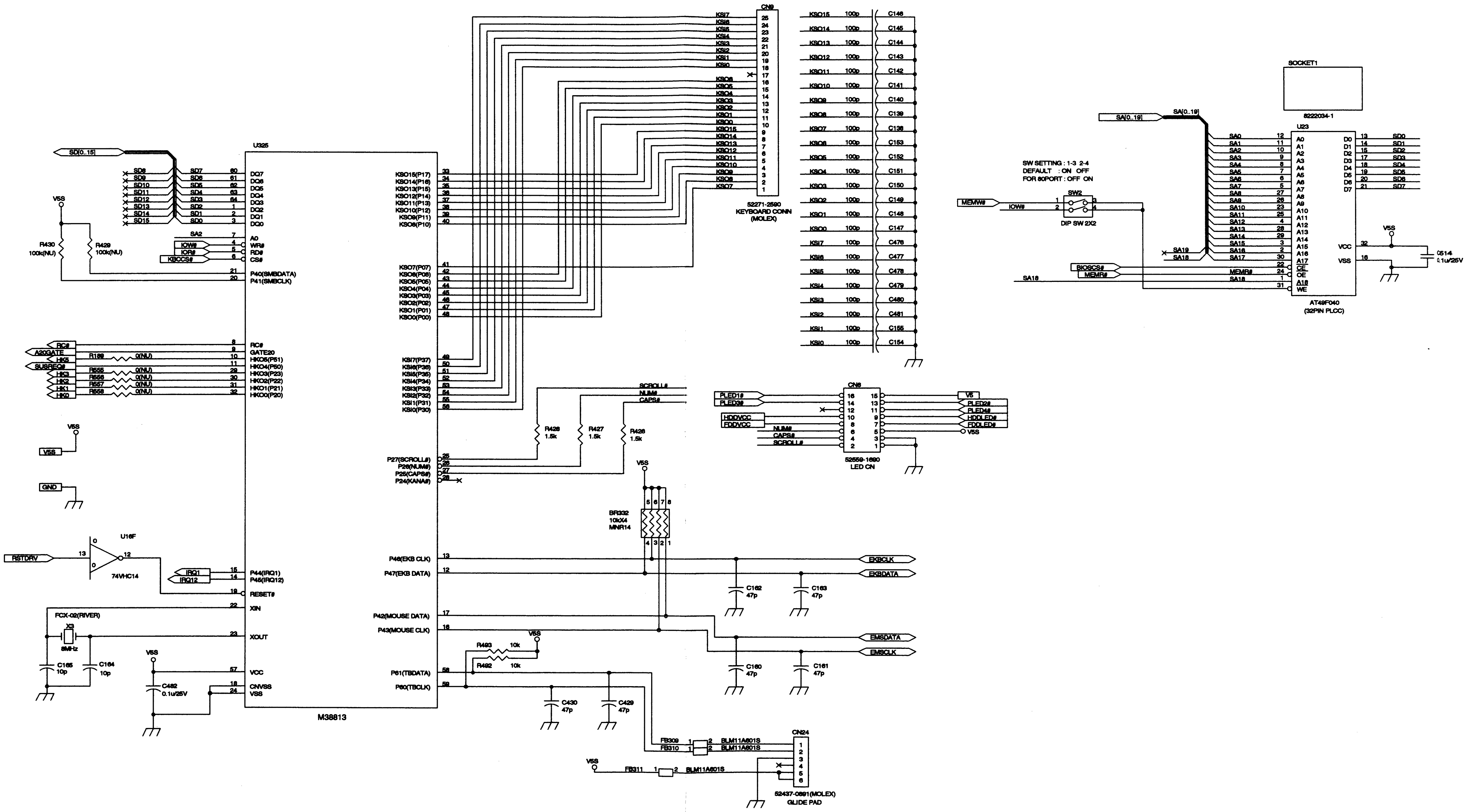
# PC-A150U,Y,A,C VIDEO CONTROLLER (REV 1.B)


VGA ACCELERATER
U14
NM2160
CBE#[0..3]
AD[0..31]
REQ#[0..3]
GNT#[0..3]
SUSA#/SUSB#
VGASUS#
SUSPEND#
R125 0(NU)
R126 0
R130 10k(NU)
R124 120
FRAME#
IRDY#
TRDY#
DEVSEL#
STOP#
PAR
CLKRUN#
PCIRST#
SUSCLK
PCLKVID
CLK14VID
INTC#
C457 22p
PERR#
IDSEL
BCLK
XTAL1/14MHZ
XTAL2/17MHZ
INTA#
XCKEN
PMCLK1/STATUS4
PVCLK1/STATUS3
MEMCLOCK
VCLOCK
TP39
TP40
REXT
R551 11k(1%)
CSYNC
NTSC_PAL
FSC
STNDBY/STATUS1
R127 0(NU)
MTEST#
BUSSEL
VGADIS
VBB
R123 0
R122 0(NU)
GNT#2
C427 0.1u/25V
FPBACK
FPVCC
FPVEE
BLON
U321
TC7W08FU
PCIRST#
FPVCC
FPVEE
BR24 33X4 MNR14
SCLK LP FLM FPHDE/MOD
PCLK PHsync PVsync PENAB
BR23 33X4 MNR14
BR22 33X4 MNR14
BR21 33X4 MNR14
BR330 33X4 MNR14
R102 33
R103 33
VDAT17 … VDAT0
PG5 PG4 PB5 PB4 PR5 PR4 PG3 PG2 PB3 PB2 PR3 PR2 PG1 PG0 PB1 PB0 PR1 PR0
V3S
V5S
AVDD
C167 10u/10V
C168 0.1u/25V
C165 0.1u/25V
C459 0.1u/25V
C97 0.1u/25V
C447 0.1u/25V
C98 0.1u/25V
10u/10V X 3
0.1u/25V X 3
C456 C455 C454 C450 C446 C449
AGND_RGB
DA302 UMN1N
DA301 UMP1N
BR331 75X4 MNR14
CRTR CRTG CRTB CRTVS CRTHS DDC2BD DDC2BC
R97 R98 R99 R100 R101 10
C89 120p
C90 120p
C433 10p C432 10p C431 10p
FB313 FB312 FB314
BLM11A121S
ZVUV[0..7]
ZVY[0..7]
ZVHREFF ZVVCLK ZVVREFF
C95 10p C99 10p C96 10p
BRT
R24 10k
Q2 2SC4081
C37 0.1u/25V
R339 10k
C383 0.1u/25V
VAB
F302 ICP-S1.0
FB307 BLM21P300S
C379 0.1u/50V
BRIGHT
FB48 FB305
BLM11A121S X 2
CN5
BM04B-SRSS-TB(JST) INVERTER CONN
[INVERTER CN]
R188 10k(NU)
D41 0(NU) BLON
D42 1SS355(NU)
COVER_SW#
D43 1SS355(NU)
HK5
D44 0
ECBLON
C158 1000p
FB15 BLM41P600S
C159 0.1u/25V
U15
DS90C363MTD
TXIN0 … TXIN20
TXCLK IN
PWR DWN#
PLLGND PLLVCC
LVDS GND LVDS VCC
TXOUT0- TXOUT0+ TXOUT1- TXOUT1+ TXOUT2- TXOUT2+ TXCLK OUT- TXCLK OUT+
R_FB
PVCC3 PVCC5 PVCC12
CN3
DF13-20DP-1.25V HIROSE LCD CONN
(LCD CN)
C156 0.1u/25V
C157 0.1u/25V
C452 0.1u/25V
FB14 BLM41P600S
C136 0.1u/25V
C137 0.1u/25V
D21 RB751V-40
BR20 10kX4 MNR14
R80 100k
FB10 BLM11A121S
CRT-R CRT-G CRT-B
FB11 FB315 FB316 FB12
BLM11A121S X 4
CN4 73709-15 BERG CRT CONN
(CRT CN)
C434 120p
C435 120p
Q329 2N7002
Q330 2N7002
R179 0(NU)
R180 0(NU)
D337 RB751V-40
U316 XC62FP3302M
VIN OUT GND
Q341 SI9933DY
R121 330K
Q17 DTC114EUA
R422 0
R423 0
FB317 BLM41P600S
FB326 BLM41P600S
C444 1u/10V
C443 0.1u/25V
C445 1u/10V
C446 0.1u/25V
PVCC3
PVCC5
VPP
Q348 NDS356AP
R484 0
FB327 BLM41P600S
PVCC12
C453 1u/25V
C472 0.1u/25V
R485 330K
Q344 DTC114EUA
FPVEE
VAB VPP V5S GND V3S

# PC-A150U,Y,A,C IDE/USB INTERFACE (REV 1.B)

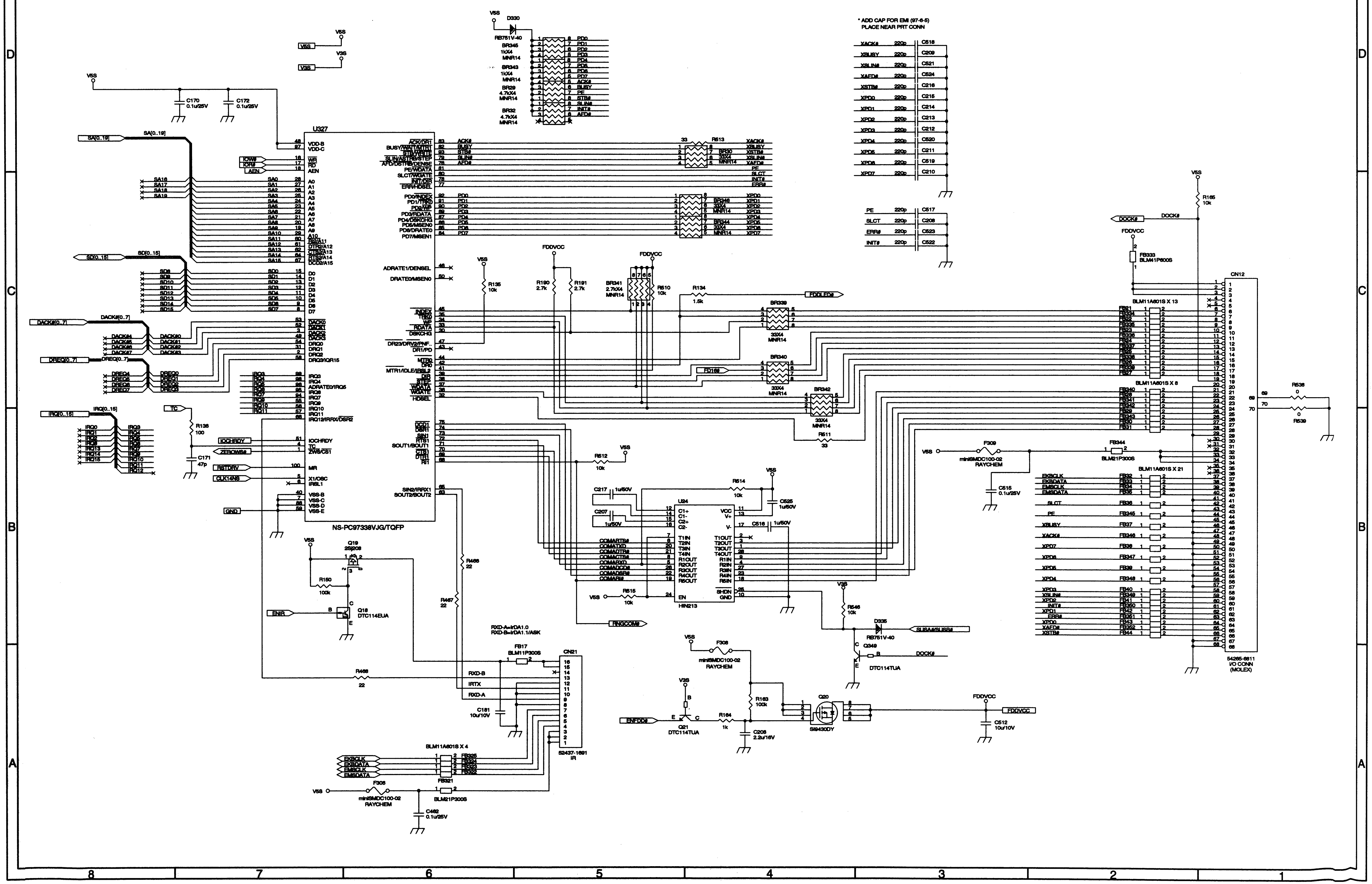

8
7
6
5
4
3
2
1
D
C
B
A
IDE port
V3S
U16A
RSTIDEP
C232
10p
74VHC14
PDD[0..15]
PDA[0..2]
V3S
V5S
GND
R23
33
PDA2
PDA1
PDA0
PDD7
PDD6
PDD5
PDD4
PDD3
PDD2
PDD1
PDD0
BR7
33X4
MNR14
BR5
33X4
MNR14
R20
1k
PDDREQ
PDIOW#
PDIOR#
PIORDY
PDDACK#
BR3
33X4
MNR14
R21
33
R22
5.6k
BR2
33X4
MNR14
PDCS1#
HDDLED#
R18
1.5k
CN14
HDD CONN
IL-FPR-U45S-HF-E3000
BR6
33X4
MNR14
BR4
33X4
MNR14
PDD8
PDD9
PDD10
PDD11
PDD12
PDD13
PDD14
PDD15
R19
33
PDCS3#
C352
10u/10V
V5S
Q303
SI9430DY
R317
100k
FB304
BLM41P600S
HDDVCC
C34
0.1u/25V
C351
10u/10V
V3S
B
E
C
ENIDEP#
Q302
DTC114TUA
R318
1k
C350
2.2u/16V
GND
IRQ14
USB port
V5S
F301
miniSMDC100-02
RAYCHEM
C314
10u/10V
R301
1.8M
C305
C304
C302
C301
C303
0.1u/25V
22u/10V X 4
MK325(N Package)
FB301
BLM21P300S
USBOC0#
R302
3.3M
CN15
UBA-4R-S10-1
USB CONNECTOR
JST
USBP0N
R304
27
C3
47p
R303
15k
FB1
BLM11B141S
FB3
BLM21P300S
R540
0
USBP0P
R5
27
C315
47p
R6
15k
FB2
BLM11B141S

# PC-A150U,Y,A,C BIOS AND KEYBOARD CONT. (REV 1.B)


U325
M38813
SD[0..15]
SA2
IOW#
IOR#
KBCCS#
RC#
A20GATE
HK5
SUSREQ#
HK3
HK2
HK1
HK0
R189
R555
R556
R557
R558
0(NU)
R430
100k(NU)
R429
100k(NU)
VSS
GND
RSTDRV
U16F
74VHC14
IRQ1
IRQ12
FCX-02(RIVER)
X3
8MHz
C165
10p
C164
10p
C482
0.1u/25V
DQ7
DQ6
DQ5
DQ4
DQ3
DQ2
DQ1
DQ0
A0
WR#
RD#
CS#
P40(SMBDATA)
P41(SMBCLK)
GATE20
HKO5(P51)
HKO4(P50)
HKO3(P23)
HKO2(P22)
HKO1(P21)
HKO0(P20)
P44(IRQ1)
P45(IRQ12)
RESET#
XIN
XOUT
VCC
CNVSS
VSS
KSO15(P17)
KSO14(P16)
KSO13(P15)
KSO12(P14)
KSO11(P13)
KSO10(P12)
KSO9(P11)
KSO8(P10)
KSO7(P07)
KSO6(P06)
KSO5(P05)
KSO4(P04)
KSO3(P03)
KSO2(P02)
KSO1(P01)
KSO0(P00)
KSI7(P37)
KSI6(P36)
KSI5(P35)
KSI4(P34)
KSI3(P33)
KSI2(P32)
KSI1(P31)
KSI0(P30)
P27(SCROLL#)
P26(NUM#)
P25(CAPS#)
P24(KANA#)
P46(EKB CLK)
P47(EKB DATA)
P42(MOUSE DATA)
P43(MOUSE CLK)
P61(TBDATA)
P60(TBCLK)
CN9
52271-2590
KEYBOARD CONN
(MOLEX)
100p
C146 C145 C144 C143 C142 C141 C140 C139 C138 C153 C152 C151 C150 C149 C148 C147 C476 C477 C478 C479 C480 C481 C155 C154
SCROLL#
NUM#
CAPS#
R428
1.5k
R427
1.5k
R426
1.5k
BR332
10kX4
MNR14
EKBCLK
EKBDATA
EMSDATA
EMSCLK
C162
47p
C163
47p
C160
47p
C161
47p
R493
10k
R492
10k
C430
47p
C429
47p
FB309
FB310
FB311
BLM11A601S
CN24
52437-0691(MOLEX)
GLIDE PAD
PLED1#
PLED3#
HDDVCC
FDDVCC
CN8
52559-1690
LED CN
V5
PLED2#
PLED4#
HDDLED#
FDDLED#
SOCKET1
8222034-1
SA[0..19]
SW SETTING : 1-3 2-4
DEFAULT : ON OFF
FOR 80PORT : OFF ON
MEMW#
IOW#
SW2
DIP SW 2X2
BIOSCS#
MEMR#
SA19
SA18
U23
AT49F040
(32PIN PLCC)
C514
0.1u/25V
A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 A17
CE
OE
A18
WE
D0 D1 D2 D3 D4 D5 D6 D7
SD0 SD1 SD2 SD3 SD4 SD5 SD6 SD7

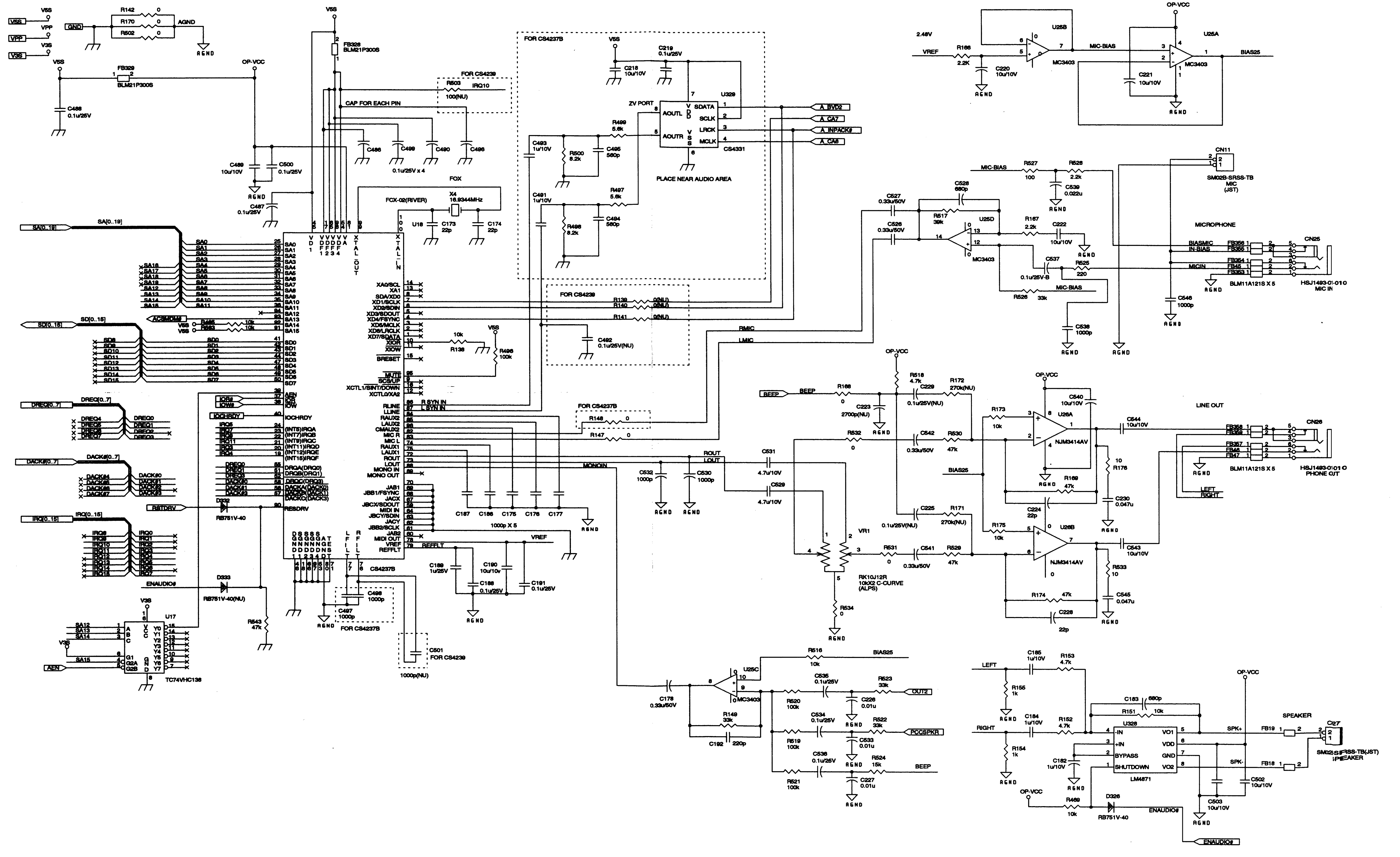
# PC-A150U,Y,A,C SUPER I/O (REV 1.B)

13/19


U327
NS-PC97338VJG/TQFP
V5S
V3S
SA[0..19]
SD[0..15]
DACK#[0..7]
DREQ[0..7]
IRQ[0..15]
IOW#
IOR#
AEN
TC
IOCHRDY
ZEROWS#
RSTDRV
CLK14NS
GND
C170 0.1u/25V
C172 0.1u/25V
R136 100
C171 47p
D330 RB751V-40
BR345 1kX4 MNR14
BR343 1kX4 MNR14
BR29 4.7kX4 MNR14
BR32 4.7kX4 MNR14
R513 33
BR30 33X4 MNR14
BR346 33X4 MNR14
BR344 33X4 MNR14
* ADD CAP FOR EMI (97-6-5) PLACE NEAR PRT CONN
XACK# 220p C518
XBUSY 220p C209
XSLIN# 220p C521
XAFD# 220p C524
XSTB# 220p C216
XPD0 220p C215
XPD1 220p C214
XPD2 220p C213
XPD3 220p C212
XPD4 220p C520
XPD5 220p C211
XPD6 220p C519
XPD7 220p C210
PE 220p C517
SLCT 220p C208
ERR# 220p C523
INIT# 220p C522
R165 10k
DOCK#
FDDVCC
FB333 BLM41P600S
CN12
54265-6811 I/O CONN (MOLEX)
BLM11A601S X 13
BLM11A601S X 8
BLM11A601S X 21
R135 10k
R190 2.7k
R191 2.7k
BR341 2.7kX4 MNR14
R510 10k
R134 1.5k
FDDLED#
BR339 33X4 MNR14
BR340 33X4 MNR14
BR342 33X4 MNR14
FD16#
R511 33
R536 0
R539 0
F309 miniSMDC100-02 RAYCHEM
C515 0.1u/25V
FB344 BLM21P300S
R512 10k
R514 10k
C217 1u/50V
C207 1u/50V
C525 1u/50V
C516 1u/50V
U24
HIN213
R515 10k
RINGCOM#
R546 10k
D335 RB751V-40
SUSA#/SUSB#
Q349 DTC114TUA
Q19 2SJ208
R150 100k
Q18 DTC114EUA
ENIR
R466 22
R467 22
R468 22
FB17 BLM11P300S
CN21
52437-1691 IR
RXD-A=IrDA1.0
RXD-B=IrDA1.1/ASK
RXD-B
IRTX
RXD-A
C161 10u/10V
BLM11A601S X 4
EKBCLK
EKBDATA
EMSCLK
EMSDATA
F308 miniSMDC100-02 RAYCHEM
FB321 BLM21P300S
C462 0.1u/25V
F306 miniSMDC100-02 RAYCHEM
Q21 DTC114TUA
ENFDD#
R163 100k
R164 1k
C206 2.2u/16V
Q20 Si9430DY
C512 10u/10V

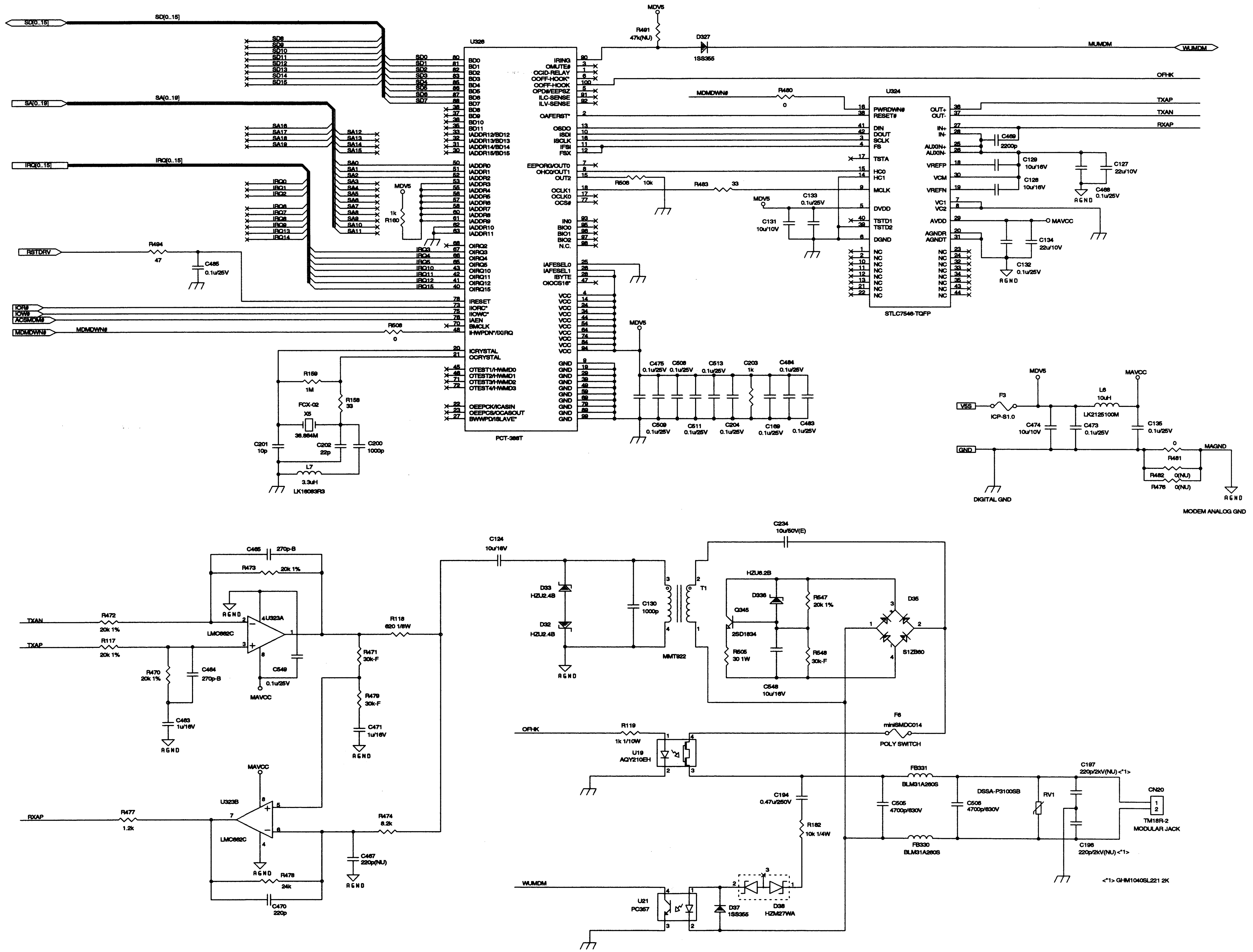
U-C13.DSF

# PC-A150U,Y,A,C AUDIO CONTROLLER (REV 1.B)

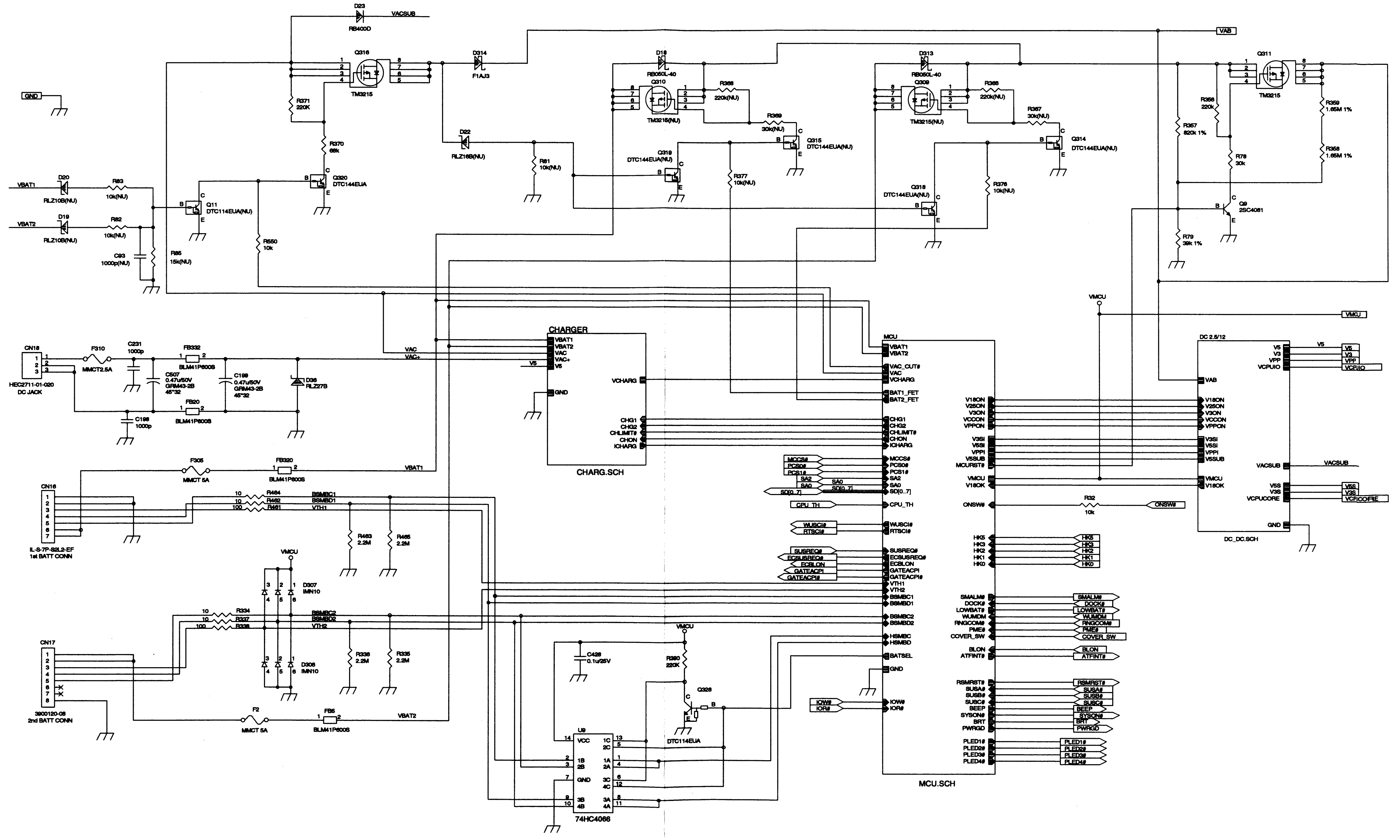


V5S
VPP
V3S
GND
R142 0
R170 0
R502 0
AGND
FB329
BLM21P300S
OP-VCC
C488 0.1u/25V
FB328 BLM21P300S
FOR CS4239
R503 100(NU)
IRQ10
CAP FOR EACH PIN
C489 10u/10V
C500 0.1u/25V
C486
C499
C490
C496
0.1u/25V x 4
FOX
FCX-02(RIVER)
X4 16.9344MHz
U18
C173 22p
C174 22p
C487 0.1u/25V
SA[0..19]
SD[0..15]
DREQ[0..7]
DACK#[0..7]
IRQ[0..15]
RSTDRV
D332 RB751V-40
ENAUDIO#
D333 RB751V-40(NU)
R543 47k
U17
TC74VHC138
SA12
SA13
SA14
SA15
AEN
IOR#
IOW#
IOCHRDY
RESDRV
ACSMDM#
R486 10k
R583 10k
CS4237B
C498 1000p
C497 1000p
FOR CS4237B
C501 FOR CS4239 1000p(NU)
FOR CS4237B
V5S
C219 0.1u/25V
C218 10u/10V
ZV PORT
AOUTL
AOUTR
SDATA
SCLK
LRCK
MCLK
U329
CS4331
R499 5.6k
R497 5.6k
R500 8.2k
R498 8.2k
C495 560p
C494 560p
C493 1u/10V
C491 1u/10V
PLACE NEAR AUDIO AREA
A_BVD2
A_CA7
A_INPACK#
A_CA8
FOR CS4239
R139 0(NU)
R140 0(NU)
R141 0(NU)
C492 0.1u/25V(NU)
R138 10k
R498 100k
R SYN IN
L SYN IN
FOR CS4237B
R148 0
R147 0
C187
C186
C175
C176
C177
1000p X 5
VREF
REFFLT
C189 1u/25V
C190 10u/10v
C188 0.1u/25V
C191 0.1u/25V
RMIC
LMIC
MONOIN
ROUT
LOUT
C532 1000p
C530 1000p
C531 4.7u/10V
C529 4.7u/10V
2.48V
VREF
R166 2.2K
C220 10u/10V
U25B
MC3403
MIC-BIAS
OP-VCC
U25A
C221 10u/10V
BIAS25
R527 100
R528 2.2k
C539 0.022u
CN11
SM02B-SRSS-TB
MIC (JST)
C527 0.33u/50V
C526 0.33u/50V
C528 680p
R517 39k
U25D
R167 2.2k
C222 10u/10V
C537 0.1u/25V-B
R525 220
R526 33k
C538 1000p
C546 1000p
MICROPHONE
BIASMIC
IN-BIAS
MICIN
FB356
FB355
FB354
FB45
FB353
BLM11A121S X 5
CN25
HSJ1493-01-010
MIC IN
BEEP
R168 0
C223 2700p(NU)
R518 4.7k
C229 0.1u/25V(NU)
R172 270k(NU)
R173 10k
C540 10u/10V
U26A
NJM3414AV
C544 10u/10V
R532 0
C542 0.33u/50V
R530 47k
R169 47k
R176 10
C230 0.047u
BIAS25
LINE OUT
FB358
FB359
FB357
FB46
FB47
CN26
BLM11A121S X 5
HSJ1493-01-010
PHONE OUT
LEFT
RIGHT
C225
R171 270k(NU)
C224 22p
R175 10k
U26B
NJM3414AV
C543 10u/10V
VR1
RK10J12R 10KX2 C-CURVE (ALPS)
R531 0
C541 0.33u/50V
R529 47k
R533 10
C545 0.047u
R174 47k
C228 22p
R534 0
R516 10k
BIAS25
U25C
MC3403
C178 0.33u/50V
C535 0.1u/25V
R523 33k
C226 0.01u
OUT2
R520 100k
R149 33k
C192 220p
C534 0.1u/25V
R522 33k
C533 0.01u
PCCSPKR
R519 100k
C536 0.1u/25V
R524 15k
C227 0.01u
BEEP
R521 100k
LEFT
C185 1u/10V
R153 4.7k
R155 1k
RIGHT
C184 1u/10V
R152 4.7k
R154 1k
C183 680p
R151 10k
U328
LM4871
-IN
+IN
BYPASS
SHUTDOWN
VO1
VDD
GND
VO2
C182 1u/10V
OP-VCC
R489 10k
D326 RB751V-40
ENAUDIO#
C503 10u/10V
C502 10u/10V
SPK+
SPK-
FB19
FB18
SPEAKER
C27
SM02(8)SRSS-TB(JST) SPEAKER
AGND

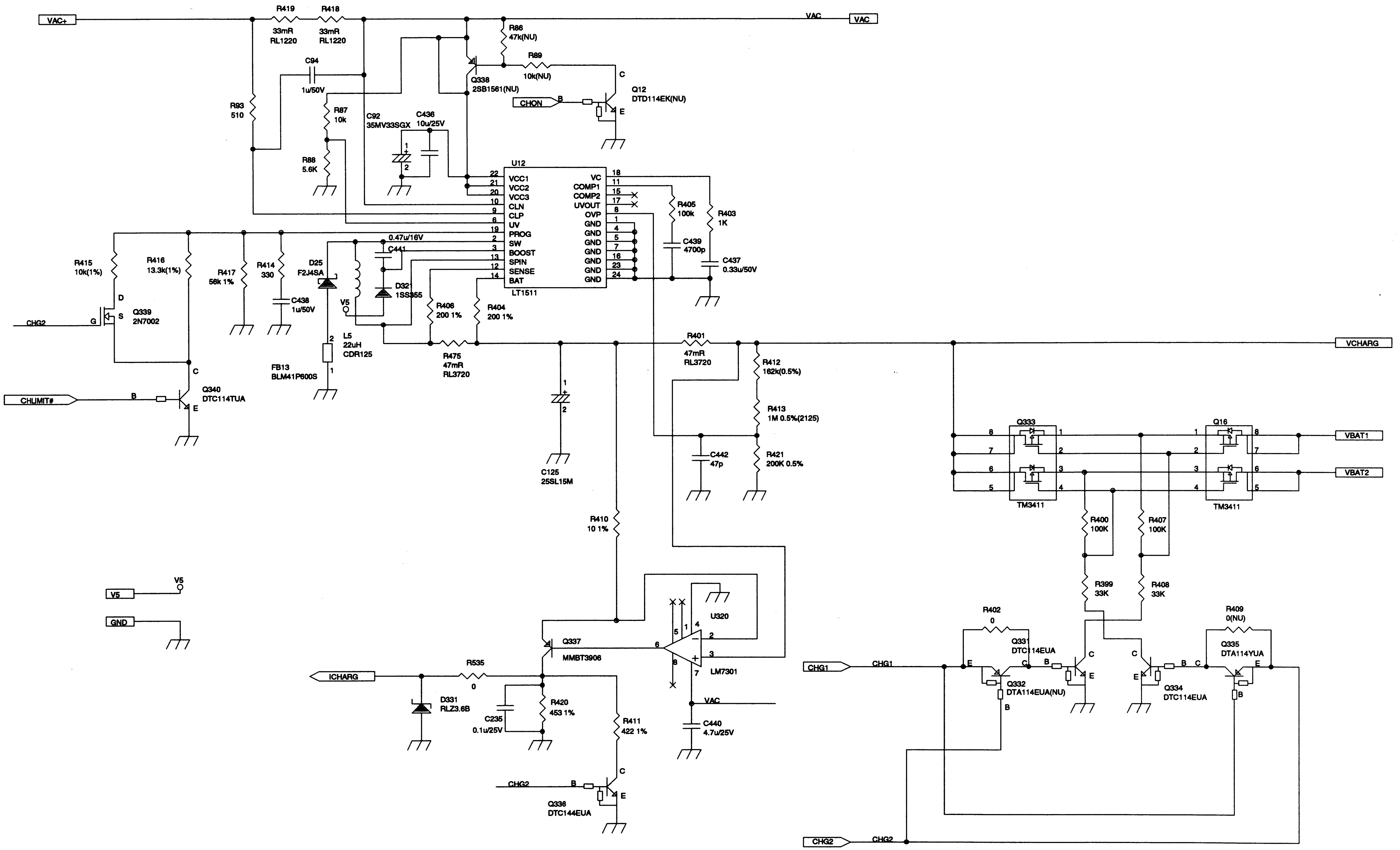
# PC-A150U,Y,A,C 56k/SOFT MODEM (REV 1.B)


8
7
6
5
4
3
2
1
D
C
B
A
SD[0..15]
SA[0..19]
IRQ[0..15]
RSTDRV
IOR#
IOW#
ACSMDM#
MDMDWN#
R494
47
C485
0.1u/25V
U326
PCT-388T
MDV5
R160
1k
R508
0
R159
1M
R158
33
FCX-02
X5
36.864M
C201
10p
C202
22p
C200
1000p
L7
3.3uH
LK1608SR3
R491
47k(NU)
D327
1SS355
MUMDM
WUMDM
OFHK
R480
0
U324
STLC7546-TQFP
TXAP
TXAN
RXAP
R506
10k
R483
33
C133
0.1u/25V
C131
10u/10V
C469
2200p
C129
10u/16V
C128
10u/16V
C127
22u/10V
C468
0.1u/25V
MAVCC
C134
22u/10V
C132
0.1u/25V
AGND
C475
0.1u/25V
C508
0.1u/25V
C513
0.1u/25V
C203
1k
C484
0.1u/25V
C509
0.1u/25V
C511
0.1u/25V
C204
0.1u/25V
C169
0.1u/25V
C483
0.1u/25V
V5S
F3
ICP-S1.0
L6
10uH
LK2125100M
C474
10u/10V
C473
0.1u/25V
C135
0.1u/25V
GND
MAGND
R481
0
R482
0(NU)
R476
0(NU)
DIGITAL GND
MODEM ANALOG GND
C465
270p-B
R473
20k 1%
R472
20k 1%
R117
20k 1%
U323A
LMC662C
C549
0.1u/25V
R470
20k 1%
C464
270p-B
C463
1u/16V
R118
620 1/8W
R471
30k-F
R479
30k-F
C471
1u/16V
C124
10u/16V
D33
HZU2.4B
D32
HZU2.4B
C130
1000p
T1
MMT922
C234
10u/50V(E)
HZU6.2B
D336
Q345
2SD1834
R547
20k 1%
R505
30 1W
R548
30k-F
C548
10u/16V
D35
S1ZB60
OFHK
R119
1k 1/10W
U19
AQY210EH
F6
miniSMDC014
POLY SWITCH
FB331
BLM31A260S
C194
0.47u/250V
R182
10k 1/4W
C505
4700p/630V
C506
4700p/630V
DSSA-P3100SB
RV1
C197
220p/2kV(NU) <*1>
C196
220p/2kV(NU) <*1>
FB330
BLM31A260S
CN20
TM18R-2
MODULAR JACK
<*1> GHM1040SL221 2K
RXAP
R477
1.2k
U323B
LMC662C
R474
8.2k
C467
220p(NU)
R478
24k
C470
220p
WUMDM
U21
PC357
D37
1SS355
D38
HZM27WA

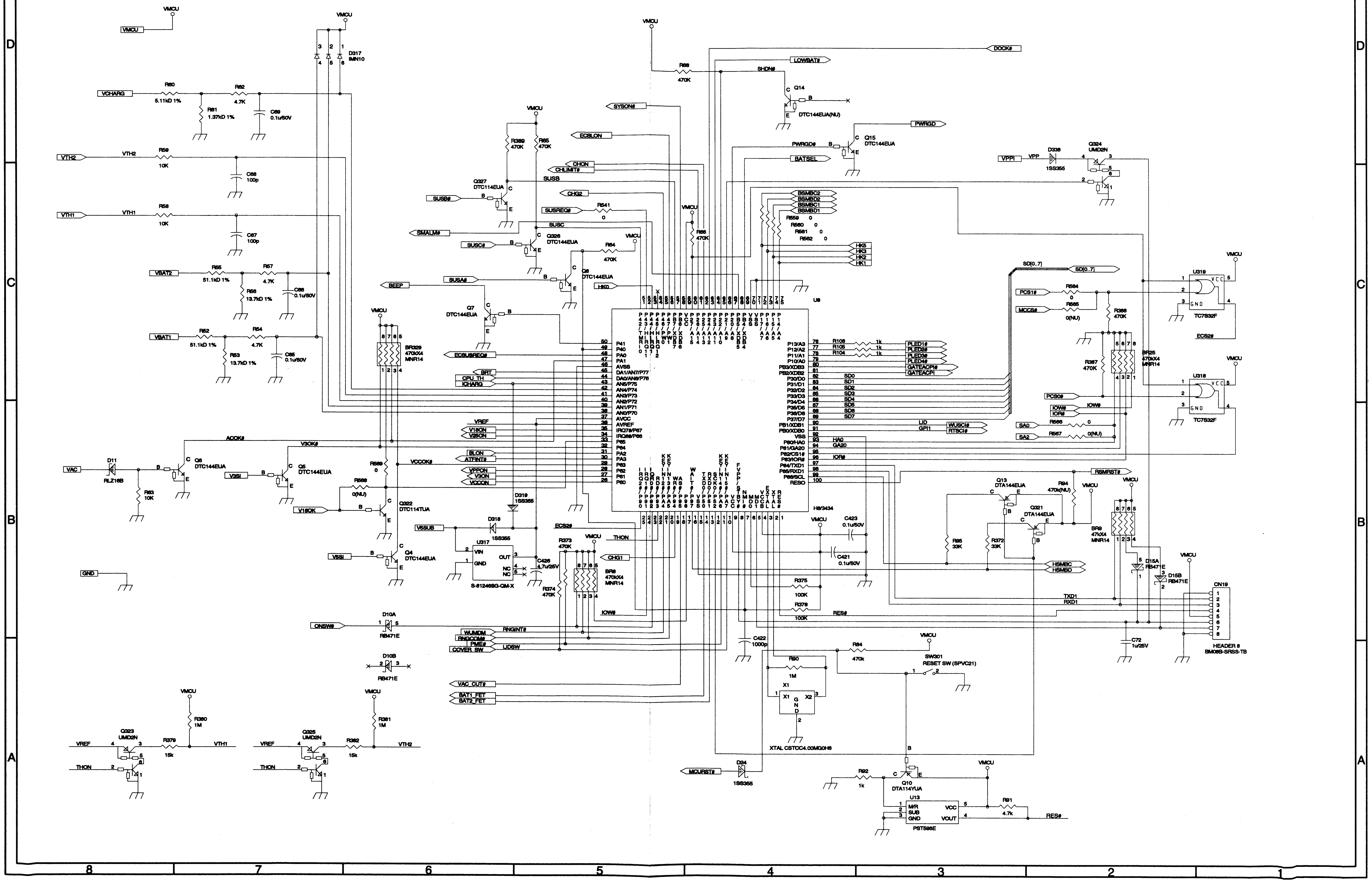
# PC-A150U,Y,A,C CHARGER MAIN (REV 1.B)


D23
RB400D
VACSUB
VAB
Q316
TM3215
D314
F1AJ3
D18
RB050L-40
Q310
TM3215(NU)
R368
220k(NU)
R369
30k(NU)
Q315
DTC144EUA(NU)
Q319
DTC144EUA(NU)
R377
10k(NU)
D313
RB050L-40
Q309
TM3215(NU)
R366
220k(NU)
R367
30k(NU)
Q314
DTC144EUA(NU)
Q318
DTC144EUA(NU)
R376
10k(NU)
Q311
TM3215
R358
220k
R357
820k 1%
R359
1.65M 1%
R356
1.65M 1%
R78
30k
Q9
2SC4081
R79
39k 1%
GND
R371
220K
R370
68k
Q320
DTC144EUA
D22
RLZ16B(NU)
R81
10k(NU)
VBAT1
D20
RLZ10B(NU)
R83
10k(NU)
VBAT2
D19
RLZ10B(NU)
R82
10k(NU)
C93
1000p(NU)
R85
15k(NU)
Q11
DTC114EUA(NU)
R550
10k
VMCU
CN18
HEC2711-01-020
DC JACK
F310
MMCT2.5A
C231
1000p
FB332
BLM41P600S
C507
0.47u/50V
GRM43-2B
45*32
C199
0.47u/50V
GRM43-2B
45*32
D36
RLZ27B
FB20
BLM41P600S
C198
1000p
VAC
VAC+
V5
CHARGER
VBAT1
VBAT2
VAC
VAC+
V5
VCHARG
GND
CHG1
CHG2
CHLIMIT#
CHON
ICHARG
CHARG.SCH
MCU
VBAT1
VBAT2
VAC_CUT#
VAC
VCHARG
BAT1_FET
BAT2_FET
CHG1
CHG2
CHLIMIT#
CHON
ICHARG
MCCS#
PCS0#
PCS1#
SA2
SA0
SD[0..7]
CPU_TH
WUSCI#
RTSCI#
SUSREQ#
ECSUSREQ#
ECBLON
GATEACPI
GATEACPI#
VTH1
VTH2
BSMBC1
BSMBD1
BSMBC2
BSMBD2
HSMBC
HSMBD
BATSEL
GND
IOW#
IOR#
V18ON
V25ON
V3ON
VCCON
VPPON
V3SI
V5SI
VPPI
V5SUB
MCURST#
VMCU
V18OK
ONSW#
R32
10k
HK5
HK3
HK2
HK1
HK0
SMALM#
DOCK#
LOWBAT#
WUMDM
RNGCOM#
PME#
COVER_SW
BLON
ATFINT#
RSMRST#
SUSA#
SUSB#
SUSC#
BEEP
SYSON#
BRT
PWRGD
PLED1#
PLED2#
PLED3#
PLED4#
MCU.SCH
DC 2.5/12
V5
V3
VPP
VCPUIO
VAB
VACSUB
V3S
V5S
VCPUCORE
DC_DC.SCH
CN16
IL-S-7P-S2L2-EF
1st BATT CONN
F305
MMCT 5A
FB320
BLM41P600S
R464
R462
R461
BSMBC1
BSMBD1
VTH1
R463
2.2M
R465
2.2M
D307
IMN10
D308
IMN10
R334
R337
R338
BSMBC2
BSMBD2
VTH2
R336
2.2M
R335
2.2M
CN17
3900120-08
2nd BATT CONN
F2
MMCT 5A
FB6
BLM41P600S
C428
0.1u/25V
R380
220K
Q328
DTC114EUA
U9
74HC4066
VCC
1C
2C
1B
2B
1A
2A
GND
3C
4C
3B
4B
3A
4A

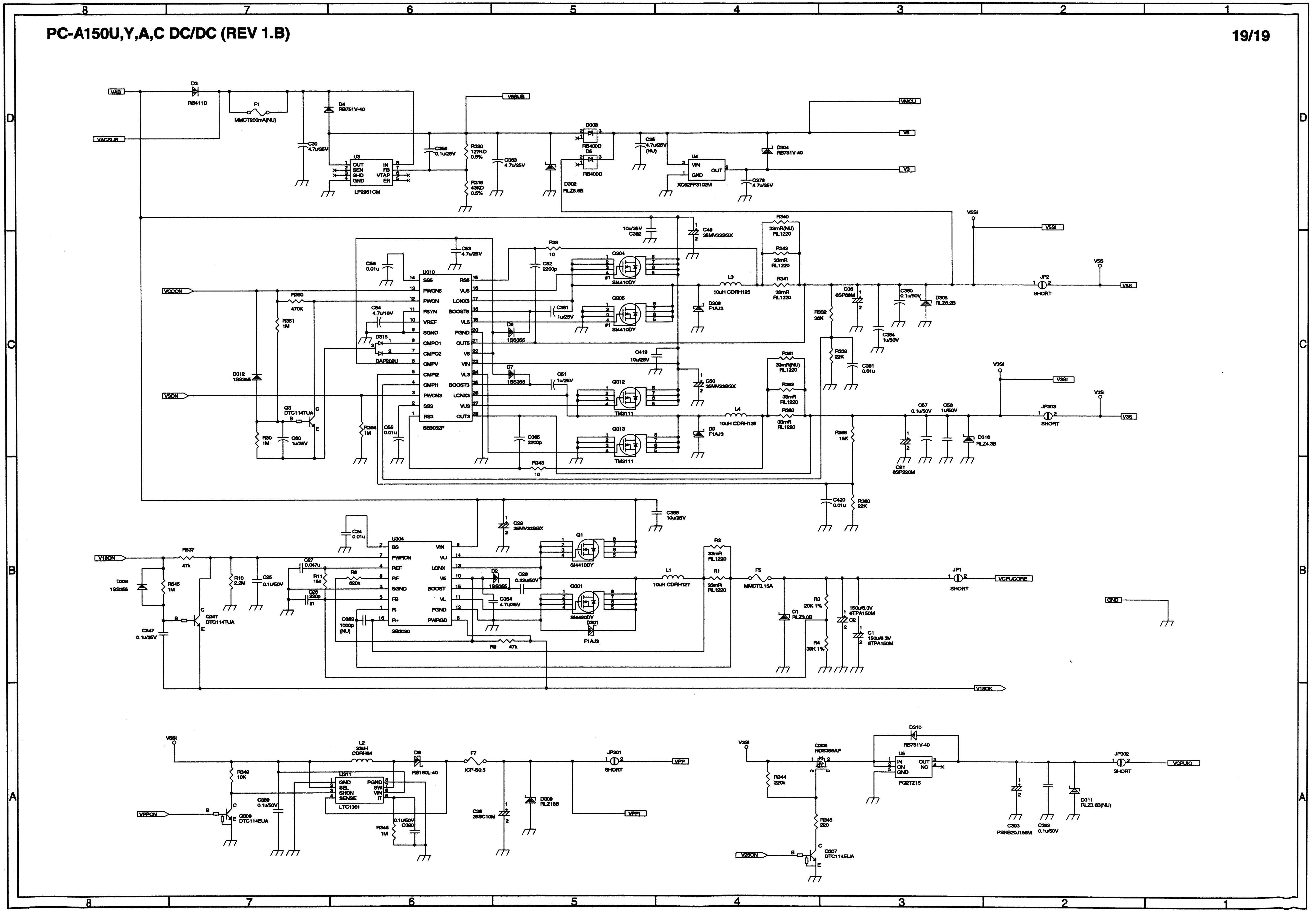
# PC-A150U,Y,A,C SMART CHARGER (REV 1.B)


VAC+
R419
33mR
RL1220
R418
33mR
RL1220
VAC
VAC
R86
47k(NU)
R89
10k(NU)
Q338
2SB1561(NU)
C94
1u/50V
R93
510
R87
10k
R88
5.6K
C92
35MV33SGX
C436
10u/25V
CHON
Q12
DTD114EK(NU)
U12
VCC1
VCC2
VCC3
CLN
CLP
UV
PROG
SW
BOOST
SPIN
SENSE
BAT
VC
COMP1
COMP2
UVOUT
OVP
GND
LT1511
R405
100k
R403
1K
C439
4700p
C437
0.33u/50V
R415
10k(1%)
R416
13.3k(1%)
R417
56k 1%
R414
330
C438
1u/50V
D25
F2J4SA
0.47u/16V
C441
D321
1SS355
V5
L5
22uH
CDR125
FB13
BLM41P600S
R406
200 1%
R404
200 1%
R475
47mR
RL3720
Q339
2N7002
CHG2
Q340
DTC114TUA
CHLIMIT#
R401
47mR
RL3720
VCHARG
R412
162k(0.5%)
R413
1M 0.5%(2125)
C442
47p
R421
200K 0.5%
C125
25SL15M
R410
10 1%
Q333
TM3411
Q16
TM3411
VBAT1
VBAT2
R400
100K
R407
100K
R399
33K
R408
33K
R402
0
R409
0(NU)
Q331
DTC114EUA
Q332
DTA114EUA(NU)
Q334
DTC114EUA
Q335
DTA114YUA
CHG1
CHG1
CHG2
CHG2
V5
V5
GND
U320
LM7301
Q337
MMBT3906
VAC
C440
4.7u/25V
ICHARG
R535
0
D331
RLZ3.6B
C235
0.1u/25V
R420
453 1%
R411
422 1%
Q336
DTC144EUA
CHG2

# PC-A150U,Y,A,C MCU H8/3434 (REV 1.B)

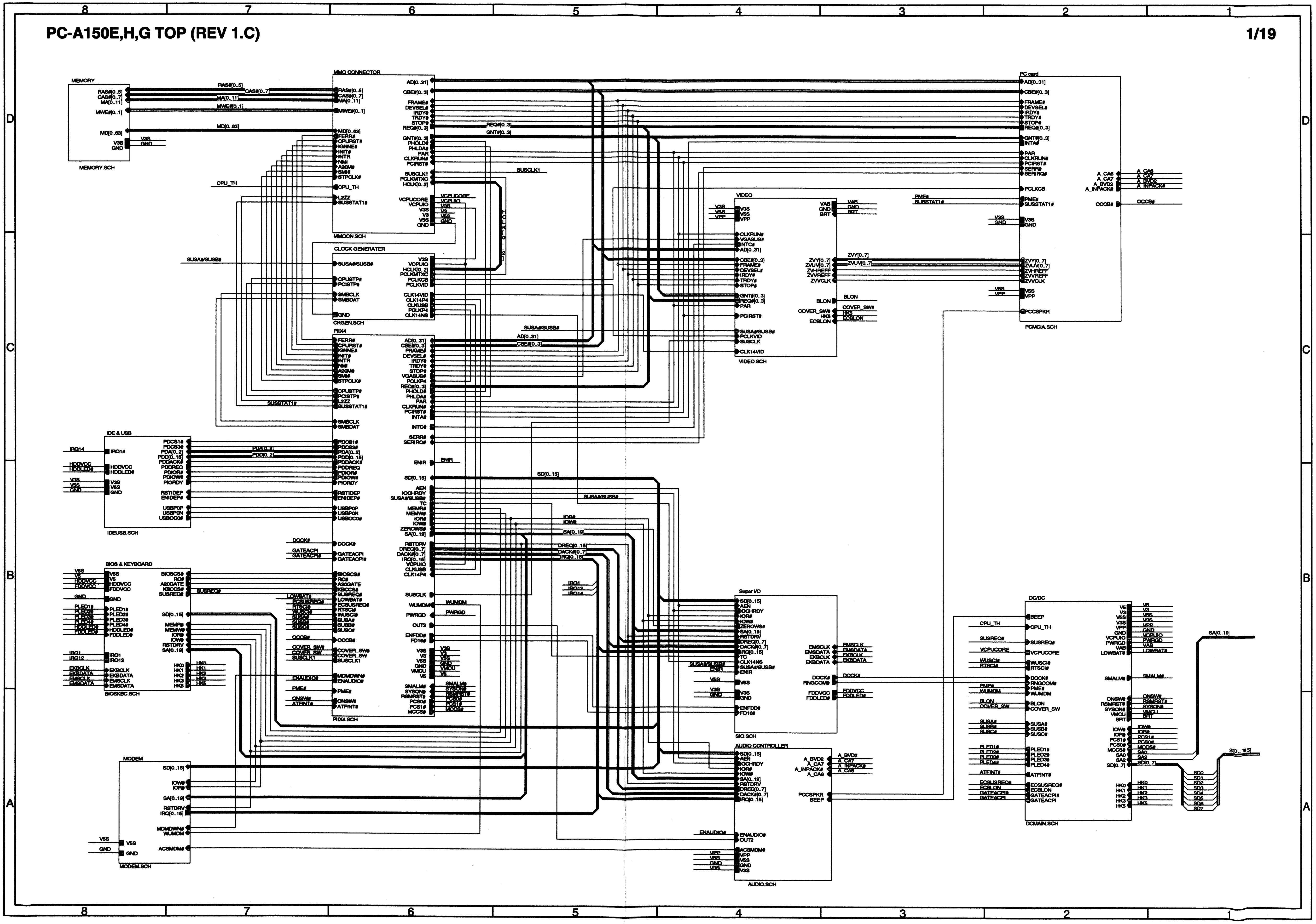

VMCU
VCHARG
R60 5.11kΩ 1%
R61 1.37kΩ 1%
R62 4.7K
C69 0.1u/50V
D317 IMN10
VTH2
R59 10K
C68 100p
VTH1
R58 10K
C67 100p
VBAT2
R55 51.1kΩ 1%
R56 13.7kΩ 1%
R57 4.7K
C66 0.1u/50V
VBAT1
R52 51.1kΩ 1%
R53 13.7kΩ 1%
R54 4.7K
C65 0.1u/50V
BR329 470X4 MNR14
VAC
D11 RLZ18B
R63 10K
Q6 DTC144EUA
ACOK#
V3OK#
V3SI
Q5 DTC144EUA
R569 0
VCCOK#
R568 0(NU)
V18OK
Q322 DTC114TUA
V5SUB
V5SI
Q4 DTC144EUA
GND
D318 1SS355
D319 1SS355
U317 S-81246SG-QM-X
VIN OUT GND NC NC
C426 4.7u/25V
ECS2#
R373 470K
R374 470K
BR8 470kX4 MNR14
THON
CHG1
IOW#
ONSW#
D10A RB471E
D10B RB471E
WUMDM
RNGCOM#
PME#
COVER_SW
RNGINT#
LIDSW
VAC_CUT#
BAT1_FET
BAT2_FET
VREF
R380 1M
R381 1M
Q323 UMD2N
Q325 UMD2N
R379 15k
R382 15k
SYSON#
ECBLON
CHON
CHLIMIT#
CHG2
SUSREQ#
R541 0
SUSB#
SUSB
Q327 DTC114EUA
R369 470K
R65 470K
SMALM#
SUSC
SUSC#
Q326 DTC144EUA
R64 470K
SUSA#
Q8 DTC144EUA
BEEP
Q7 DTC144EUA
ECSUSREQ#
HKO
BRT
CPU_TH
ICHARG
VREF
V18ON
V25ON
BLON
ATFINT#
VPPON
V3ON
VCCON
U6 H8/3434
P41 P40 PA0 PA1 AVSS DA1/AN7/P77 DA0/AN6/P76 AN5/P75 AN4/P74 AN3/P73 AN2/P72 AN1/P71 AN0/P70 AVCC AVREF IRQ7#/P67 IRQ6#/P66 P65 P64 PA2 PA3 P63 P62 P61 P60
P13/A3 P12/A2 P11/A1 P10/A0 PB3/XDB3 PB2/XDB2 P30/D0 P31/D1 P32/D2 P33/D3 P34/D4 P35/D5 P36/D6 P37/D7 PB1/XDB1 PB0/XDB0 VSS P80/HA0 P81/GA20 P82/CS1# P83/IOR# P84/TXD1 P85/RXD1 P86/SCL RESO
DOCK#
LOWBAT#
R68 470K
SHDN#
Q14 DTC144EUA(NU)
PWRGD
PWRGD#
Q15 DTC144EUA
BATSEL
VPPI
VPP
D338 1SS355
Q324 UMD2N
BSMBC2
BSMBD2
BSMBC1
BSMBD1
R559 0
R560 0
R561 0
R562 0
R66 470K
HK5 HK3 HK2 HK1
SD[0..7]
PCS1#
MCCS#
R564 0
R565 0(NU)
R366 470K
R367 470K
BR25 470kX4 MNR14
U319 TC7S32F
U318 TC7S32F
ECS2#
PCS0#
IOW#
IOR#
SA0
SA2
R566 0
R567 0(NU)
R108 1k
R105 1k
R104 1k
PLED1# PLED2# PLED3# PLED4#
GATEACPI#
GATEACPI
SD0 SD1 SD2 SD3 SD4 SD5 SD6 SD7
LID GPI1
WUSCI#
RTSCI#
HA0 GA20
RSMRST#
Q13 DTA144EUA
R94 470k(NU)
Q321 DTA144EUA
R95 33K
R372 33K
BR9 47kX4 MNR14
HSMBC
HSMBD
D15A RB471E
D15B RB471E
TXD1
RXD1
RES#
CN19
HEADER 8 BM08B-SRSS-TB
C72 1u/25V
C423 0.1u/50V
C421 0.1u/50V
R375 100K
R378 100K
C422 1000p
R90 1M
X1
XTAL CSTCC4.00MG0H6
R84 470k
SW301 RESET SW (SPVC21)
MCURST#
D24 1SS355
R92 1k
Q10 DTA114YUA
U13 PST595E
M/R SUB GND VCC VOUT
R91 4.7k
RES#

# PC-A150U,Y,A,C DC/DC (REV 1.B)


8
7
6
5
4
3
2
1
D
C
B
A
VAB
VACSUB
D3
RB411D
F1
MMCT200mA(NU)
D4
RB751V-40
C30
4.7u/35V
U3
LP2951CM
OUT
SEN
SHD
GND
IN
FB
VTAP
ER
C358
0.1u/25V
R320
127KD
0.5%
R319
43KD
0.5%
C363
4.7u/25V
V5SUB
D303
RB400D
D5
RB400D
D302
RLZ5.6B
C35
4.7u/25V
(NU)
U4
VIN
GND
OUT
XC62FP3102M
C378
4.7u/25V
D304
RB751V-40
VMCU
V5
V3
V5SI
10u/25V
C382
C49
35MV33SGX
R340
33mR(NU)
RL1220
R342
33mR
RL1220
R341
33mR
RL1220
C53
4.7u/25V
C56
0.01u
U310
SB3052P
SS5
PWON5
PWON
FSYN
VREF
SGND
CMPO1
CMPO2
CMPV
CMPI2
CMPI1
PWON3
SS3
RS3
RS5
VU5
LCNX5
BOOST5
VL5
PGND
OUT5
V5
VIN
VL3
BOOST3
LCNX3
VU3
OUT3
R29
10
C52
2200p
Q304
SI4410DY
Q305
SI4410DY
L3
10uH CDRH125
D308
F1AJ3
C36
6SP68M
C380
0.1u/50V
D305
RLZ6.2B
JP2
SHORT
V5S
R332
36K
C384
1u/50V
R333
22K
C381
0.01u
VCCON
R350
470K
R351
1M
C54
4.7u/16V
D315
DAP202U
D6
1SS355
C391
1u/25V
C419
10u/25V
C50
35MV33SGX
D7
1SS355
C51
1u/25V
Q312
TM3111
Q313
TM3111
R361
33mR(NU)
RL1220
R362
33mR
RL1220
R363
33mR
RL1220
L4
10uH CDRH125
D9
F1AJ3
V3SI
V3S
C57
0.1u/50V
C58
1u/50V
JP303
SHORT
D316
RLZ4.3B
C91
6SP220M
R365
15K
D312
1SS355
V3ON
Q3
DTC114TUA
R30
1M
C60
1u/25V
R364
1M
C55
0.01u
C365
2200p
R343
10
C420
0.01u
R360
22K
C355
10u/25V
C29
35MV33SGX
C24
0.01u
U304
SB3030
SS
PWRON
REF
RF
SGND
FB
R-
R+
VIN
VU
LCNX
V5
BOOST
VL
PGND
PWRGD
Q1
SI4410DY
Q301
SI4420DY
D301
F1AJ3
C27
0.047u
R8
820k
R11
15k
C26
220p
D2
1SS355
C28
0.22u/50V
C354
4.7u/35V
C383
1000p
(NU)
R9
47k
R2
33mR
RL1220
R1
33mR
RL1220
L1
10uH CDRH127
F5
MMCT3.15A
JP1
SHORT
VCPUCORE
R3
20K 1%
R4
39K 1%
C2
150u/6.3V
6TPA150M
C1
150u/6.3V
6TPA150M
D1
RLZ3.0B
GND
V18ON
R537
47K
D334
1SS355
R545
1M
R10
2.2M
C25
0.1u/50V
Q347
DTC114TUA
C547
0.1u/25V
V18OK
V5SI
R349
10K
VPPON
Q308
DTC114EUA
C389
0.1u/50V
U311
LTC1301
GND
SEL
SHDN
SENSE
PGND
SW
VIN
IT
L2
33uH
CDRH64
D8
RB160L-40
R346
1M
C390
0.1u/50V
F7
ICP-S0.5
C38
25SC10M
D309
RLZ16B
JP301
SHORT
VPP
VPPI
V3SI
Q306
NDS356AP
R344
220k
R345
220
Q307
DTC114EUA
V25ON
D310
RB751V-40
U5
PQ2TZ15
IN
ON
GND
OUT
NC
C393
PSNB20J156M
C392
0.1u/50V
D311
RLZ3.6B(NU)
JP302
SHORT
VCPUIO

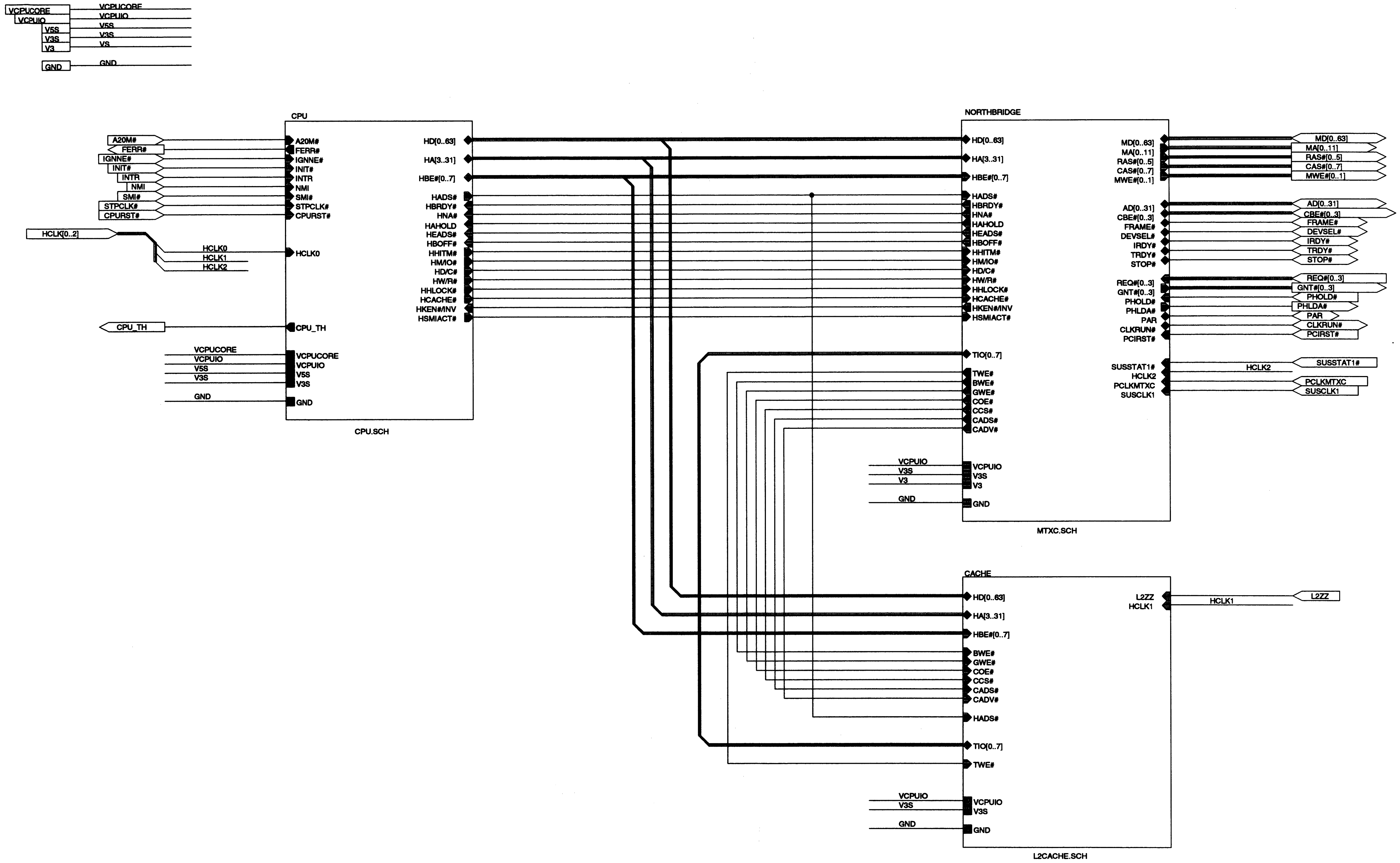
# PC-A150E,H,G TOP (REV 1.C)

1/19

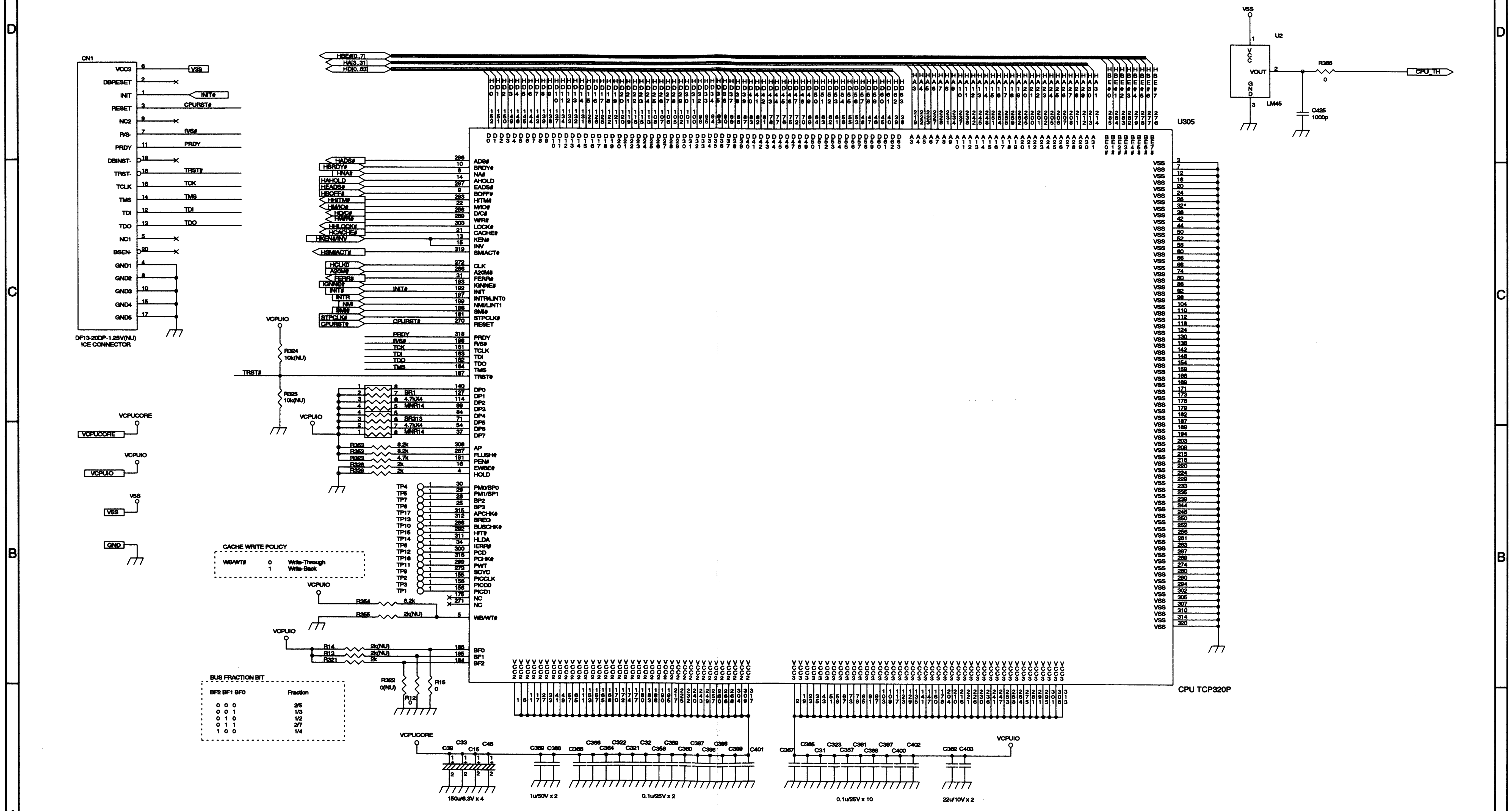

8
7
6
5
4
3
2
1
D
C
B
A
MEMORY
MEMORY.SCH
MMO CONNECTOR
MMOCN.SCH
CLOCK GENERATOR
CKGEN.SCH
PIIX4
PIIX4.SCH
IDE & USB
IDEUSB.SCH
BIOS & KEYBOARD
BIOSKBC.SCH
MODEM
MODEM.SCH
VIDEO
VIDEO.SCH
PC card
PCMCIA.SCH
Super I/O
SIO.SCH
AUDIO CONTROLLER
AUDIO.SCH
DC/DC
DCMAIN.SCH
RAS#[0..5]
CAS#[0..7]
MA[0..11]
MWE#[0..1]
MD[0..63]
AD[0..31]
CBE#[0..3]
REQ#[0..3]
GNT#[0..3]
SUSCLK1
CPU_TH
SUSA#/SUSB#
SUSSTAT1#
PDA[0..2]
PDD[0..15]
SD[0..15]
SA[0..19]
IOR#
IOW#
DREQ[0..15]
DACK#[0..7]
IRQ[0..15]
ZVY[0..7]
ZVUV[0..7]
DOCK#
ENIR
WUMDM
PWRGD
SUSREQ#
ENAUDIO#
OCCB#

E-C01.DSF

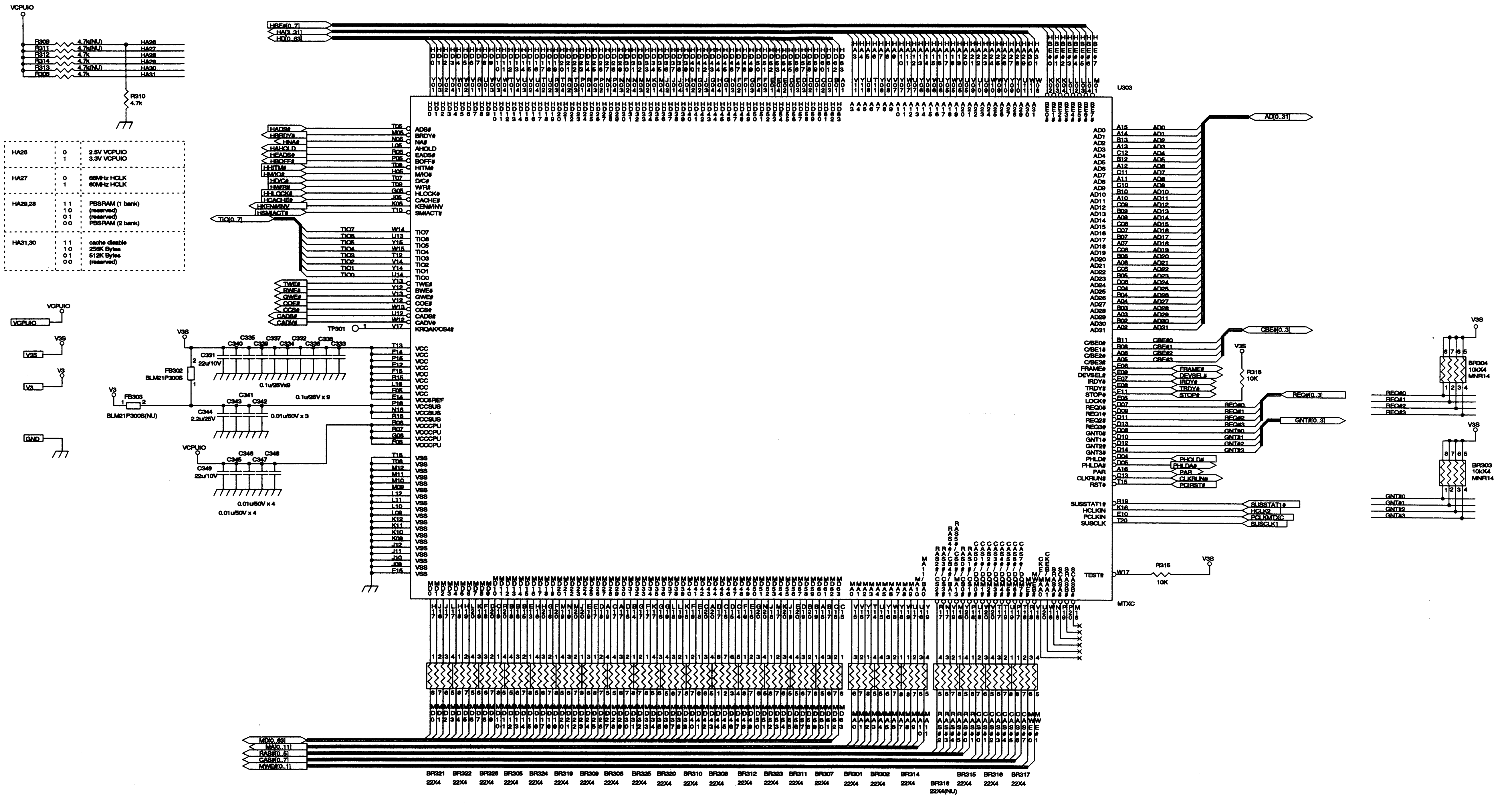
# PC-A150E,H,G I/O TO CPU CONNECTOR (REV 1.C)


VCPUCORE
VCPUIO
V5S
V3S
V3
VS
GND
CPU
A20M#
FERR#
IGNNE#
INIT#
INTR
NMI
SMI#
STPCLK#
CPURST#
HCLK[0..2]
HCLK0
HCLK1
HCLK2
CPU_TH
HD[0..63]
HA[3..31]
HBE#[0..7]
HADS#
HBRDY#
HNA#
HAHOLD
HEADS#
HBOFF#
HHITM#
HM/IO#
HD/C#
HW/R#
HHLOCK#
HCACHE#
HKEN#/INV
HSMIACT#
CPU.SCH
NORTHBRIDGE
TIO[0..7]
TWE#
BWE#
GWE#
COE#
CCS#
CADS#
CADV#
MD[0..63]
MA[0..11]
RAS#[0..5]
CAS#[0..7]
MWE#[0..1]
AD[0..31]
CBE#[0..3]
FRAME#
DEVSEL#
IRDY#
TRDY#
STOP#
REQ#[0..3]
GNT#[0..3]
PHOLD#
PHLDA#
PAR
CLKRUN#
PCIRST#
SUSSTAT1#
HCLK2
PCLKMTXC
SUSCLK1
MTXC.SCH
CACHE
L2ZZ
HCLK1
L2CACHE.SCH

# PC-A150E,H,G TILLAMOOK (REV 1.C)

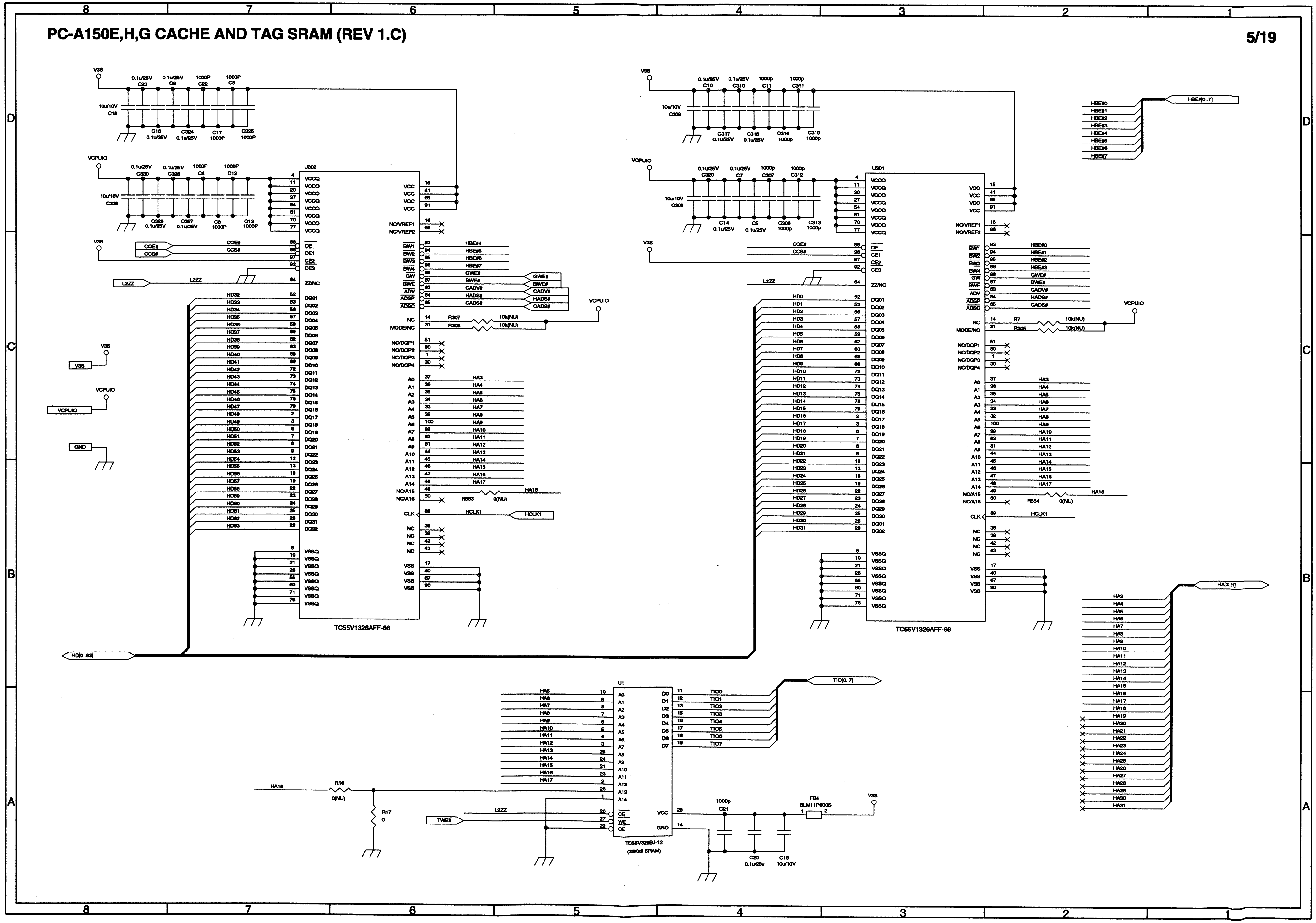

CN1
VCC3
DBRESET
INIT
RESET
NC2
R/S-
PRDY
DBINST-
TRST-
TCLK
TMS
TDI
TDO
NC1
BSEN-
GND1
GND2
GND3
GND4
GND5
V3S
INIT#
CPURST#
R/S#
TRST#
TCK
DF13-20DP-1.25V(NU)
ICE CONNECTOR
VCPUCORE
VCPUIO
V3S
GND
HBE#[0..7]
HA[3..31]
HD[0..63]
HADS#
HBRDY#
HNA#
HAHOLD
HEADS#
HBOFF#
HHITM#
HM/IO#
HD/C#
HW/R#
HHLOCK#
HCACHE#
HKEN#/INV
HSMIACT#
HCLK0
A20M#
FERR#
IGNNE#
INTR
NMI
SMI#
STPCLK#
ADS#
BRDY#
NA#
AHOLD
EADS#
BOFF#
HITM#
M/IO#
D/C#
W/R#
LOCK#
CACHE#
KEN#
INV
SMIACT#
CLK
INTR/LINT0
NMI/LINT1
R324
10k(NU)
R325
10k(NU)
BR1
4.7kX4
MNR14
BR313
DP0
DP1
DP2
DP3
DP4
DP5
DP6
DP7
R353
R352
R323
R328
R329
8.2k
4.7k
2k
AP
FLUSH#
PEN#
EWBE#
HOLD
TP4
TP5
TP7
TP8
TP17
TP13
TP10
TP15
TP14
TP6
TP12
TP16
TP11
TP9
TP2
TP3
TP1
PM0/BP0
PM1/BP1
BP2
BP3
APCHK#
BREQ
BUSCHK#
HIT#
HLDA
IERR#
PCD
PCHK#
PWT
SCYC
PICCLK
PICD0
PICD1
NC
CACHE WRITE POLICY
WB/WT# 0 Write-Through
1 Write-Back
R354
R355
2k(NU)
WB/WT#
R14
R13
R321
BF0
BF1
BF2
BUS FRACTION BIT
BF2 BF1 BF0 Fraction
0 0 0 2/5
0 0 1 1/3
0 1 0 1/2
0 1 1 2/7
1 0 0 1/4
R322
0(NU)
R12
R15
0
U305
CPU TCP320P
VSS
VCC2
VCC3
C33
C39
C15
C45
150u/6.3V x 4
C369
C386
1u/50V x 2
0.1u/25V x 2
C401
C367
0.1u/25V x 10
C362
C403
22u/10V x 2
VSS
U2
VCC
VOUT
GND
LM45
R366
C425
1000p
CPU_TH

# PC-A150E,H,G Northbridge (REV 1.C)

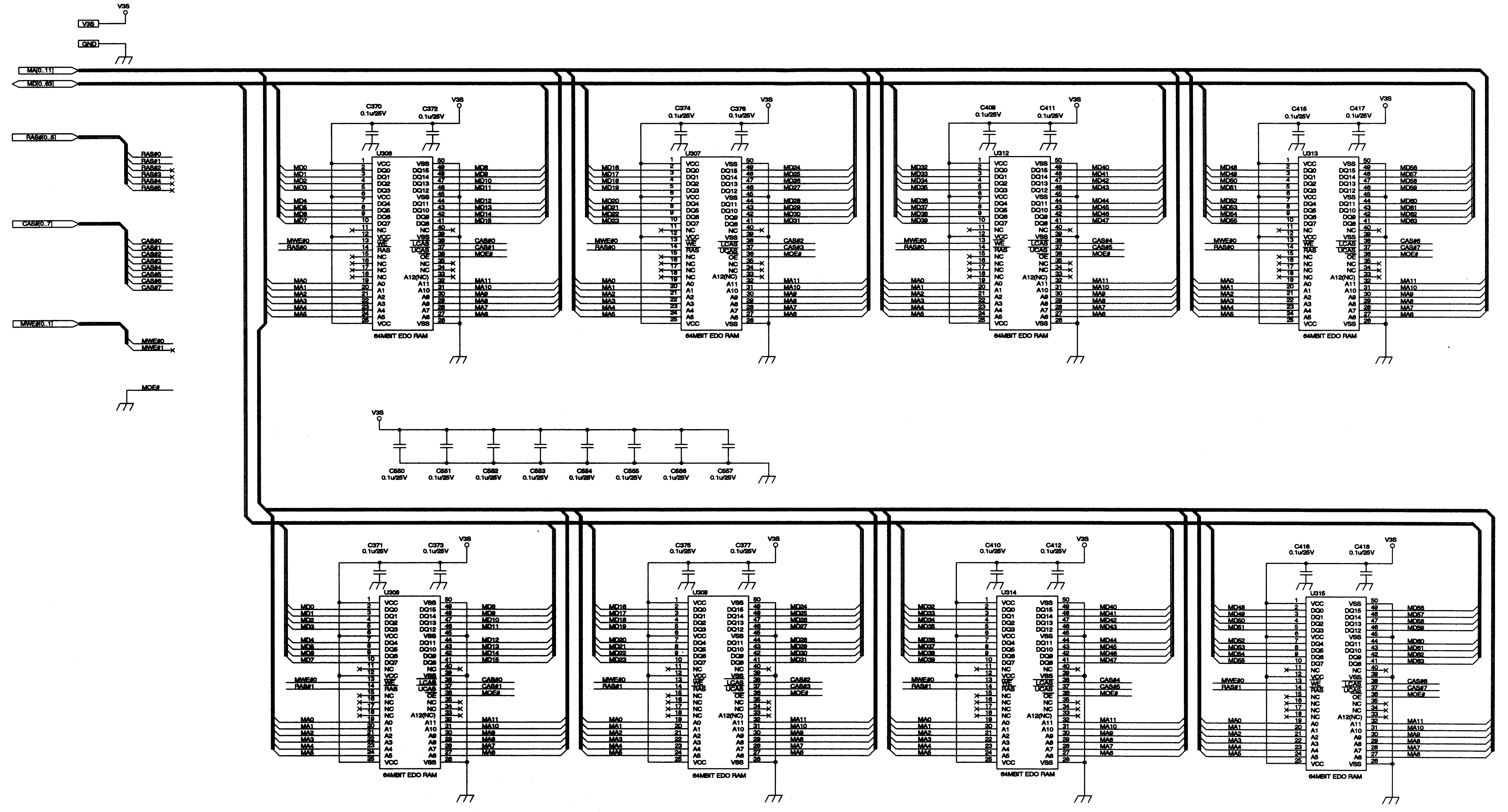

VCPUIO
R309 4.7k(NU) HA26
R311 4.7k(NU) HA27
R312 4.7k HA28
R314 4.7k HA29
R313 4.7k(NU) HA30
R308 4.7k HA31
R310 4.7k
HREF#[0..7]
HA[3..31]
HD[0..63]
U303
MTXC
AD[0..31]
CBE#[0..3]
REQ#[0..3]
GNT#[0..3]
TIO[0..7]
TP301
VCPUIO
V3S
V3
GND
FB302 BLM21P300S
FB303 BLM21P300S(NU)
C331 22u/10V
0.1u/25Vx9
0.1u/25V x 9
C344 2.2u/25V
0.01u/50V x 3
C349 22u/10V
0.01u/50V x 4
BR304 10KX4 MNR14
BR303 10KX4 MNR14
R316 10K
R315 10K
SUSSTAT1#
HCLK2
PCLKMTXC
SUSCLK1
MD[0..63]
MA[0..11]
RAS#[0..5]
CAS#[0..7]
MWE#[0..1]
BR321 22X4
BR322 22X4
BR326 22X4
BR305 22X4
BR324 22X4
BR319 22X4
BR309 22X4
BR306 22X4
BR325 22X4
BR320 22X4
BR310 22X4
BR308 22X4
BR312 22X4
BR323 22X4
BR311 22X4
BR307 22X4
BR301 22X4
BR302 22X4
BR314 22X4
BR318 22X4(NU)
BR315 22X4
BR316 22X4
BR317 22X4

| | | |
|---|---|---|
| HA26 | 0<br>1 | 2.5V VCPUIO<br>3.3V VCPUIO |
| HA27 | 0<br>1 | 66MHz HCLK<br>60MHz HCLK |
| HA29,28 | 1 1<br>1 0<br>0 1<br>0 0 | PBSRAM (1 bank)<br>(reserved)<br>(reserved)<br>PBSRAM (2 bank) |
| HA31,30 | 1 1<br>1 0<br>0 1<br>0 0 | cache disable<br>256K Bytes<br>512K Bytes<br>(reserved) |

# PC-A150E,H,G CACHE AND TAG SRAM (REV 1.C)

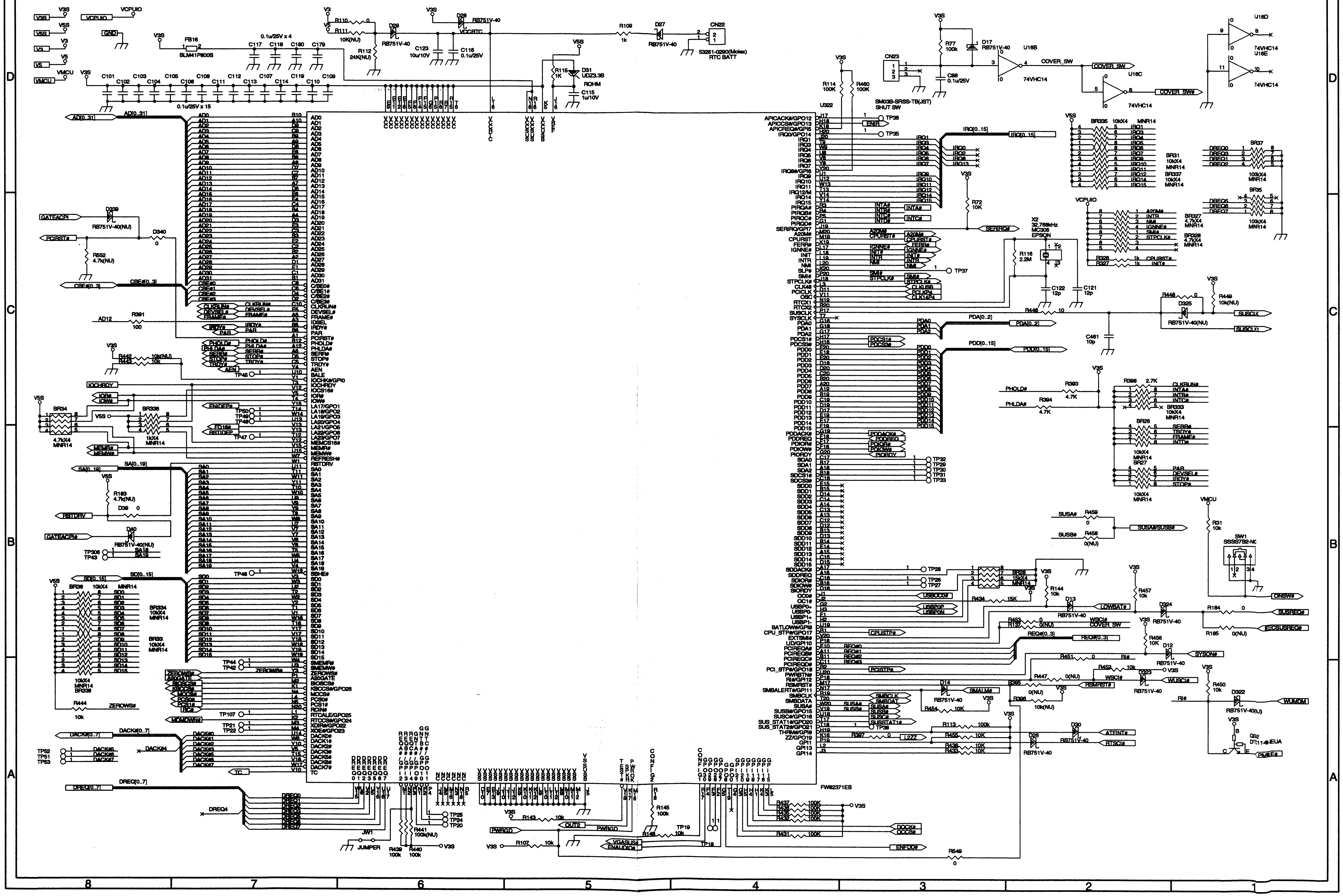

8
7
6
5
4
3
2
1
D
C
B
A
V3S
VCPUIO
GND
C23
C9
C22
C8
C18
C16
C324
C17
C325
C330
C326
C4
C12
C328
C329
C327
C6
C13
C10
C310
C11
C311
C309
C317
C318
C316
C319
C320
C7
C307
C312
C308
C14
C5
C306
C313
0.1u/25V
1000P
10u/10V
U302
U301
U1
TC55V1326AFF-66
TC55V328BJ-12
(32Kx8 SRAM)
VCCQ
VCC
VSSQ
VSS
NC/VREF1
NC/VREF2
OE
CE1
CE2
CE3
ZZ/NC
BW1
BW2
BW3
BW4
GW
BWE
ADV
ADSP
ADSC
NC
MODE/NC
NC/DQP1
NC/DQP2
NC/DQP3
NC/DQP4
A0
A14
NC/A15
NC/A16
CLK
DQ01
DQ32
COE#
CCS#
L2ZZ
HBE#0
HBE#7
HBE#[0..7]
GWE#
BWE#
CADV#
HADS#
CADS#
R307
R308
R7
R305
10k(NU)
R553
R554
0(NU)
HA3
HA17
HA18
HA31
HA[3..31]
HCLK1
HD0
HD31
HD32
HD63
HD[0..63]
TIO0
TIO7
TIO[0..7]
D0
D7
WE
TWE#
R16
0(NU)
R17
0
C21
C20
C19
1000p
0.1u/25v
10u/10V
FB4
BLM11P600S
VCC
GND

# PC-A150E,H,G MAIN MEMORY EDO 64MB (REV 1.C)


V3S
GND
MA[0..11]
MD[0..63]
RAS#[0..5]
CAS#[0..7]
MWE#[0..1]
MOE#
C370
C372
C374
C376
C409
C411
C415
C417
U306
U307
U312
U313
C550
C551
C552
C553
C554
C555
C556
C557
0.1u/25V
C371
C373
C375
C377
C410
C412
C416
C418
U308
U309
U314
U315
64MBIT EDO RAM

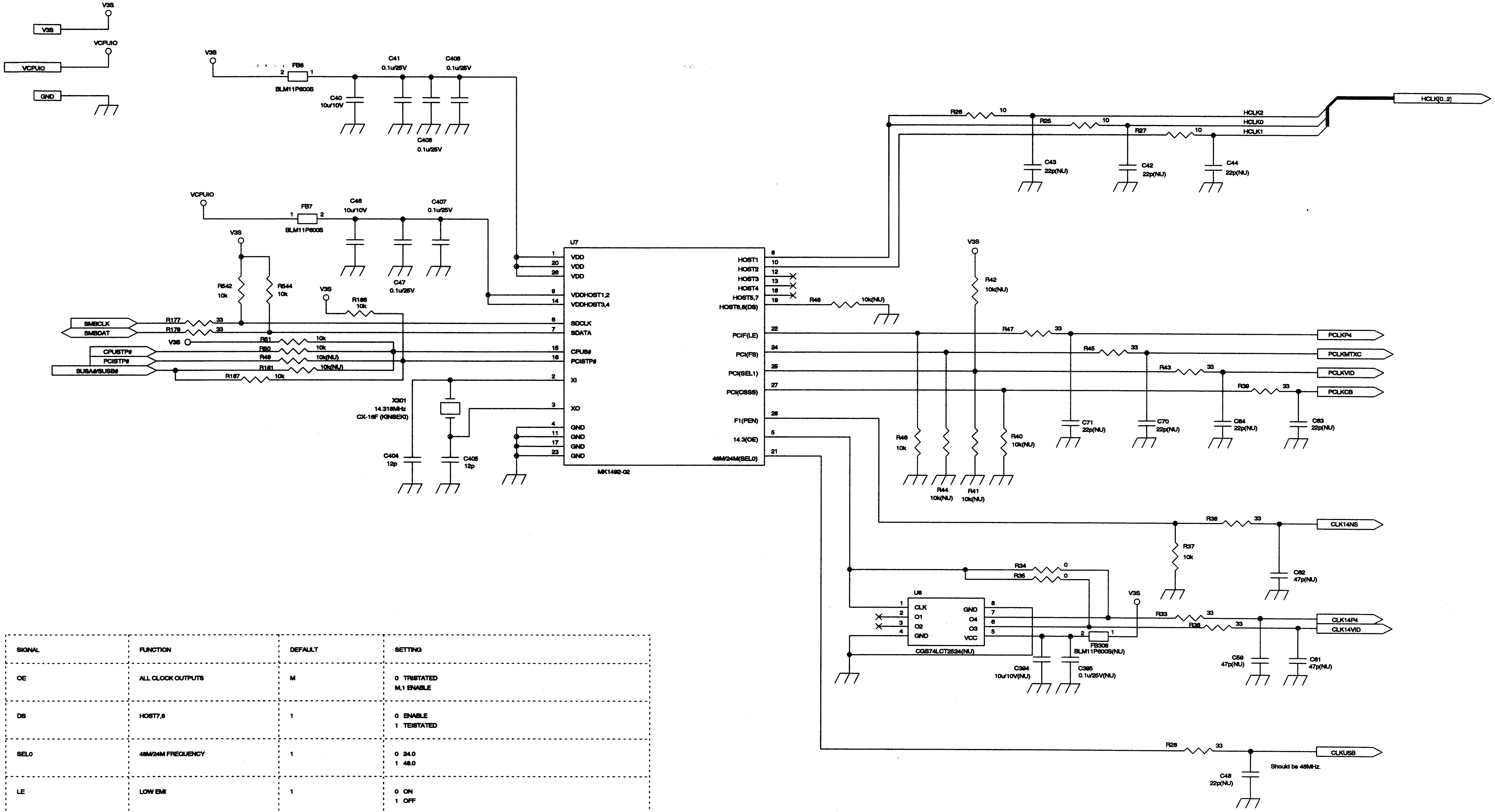
# PC-A150E,H,G South Bridge (PIIX4E) (REV 1.C)

7/19


8
7
6
5
4
3
2
1
D
C
B
A
V3S
V5S
V3
V5
VMCU
VCPUIO
GND
FB16
BLM41P800S
0.1u/25V x 4
C117
C118
C180
C179
C101
C102
C103
C104
C105
C106
C108
C111
C112
C113
C107
C114
C119
C110
C109
0.1u/25V x 15
R110
R111
10K(NU)
R112
24K(NU)
D29
RB751V-40
D28
RB751V-40
VCCRTC
C123
10u/10V
C116
0.1u/25V
R115
1K
D31
UDZ3.3B
ROHM
C115
1u/10V
R109
1k
D27
RB751V-40
CN22
53261-0290(Molex)
RTC BATT
CN23
SM03B-SRSS-TB(JST)
SHUT SW
R77
100k
D17
RB751V-40
C88
0.1u/25V
U16B
74VHC14
COVER_SW
U16C
COVER_SW#
U16D
U16E
R114
100K
R460
100K
U322
AD[0..31]
GATEACPI
D339
RB751V-40(NU)
PCIRST#
D340
R552
4.7k(NU)
CBE#[0..3]
AD12
R391
100
CLKRUN#
DEVSEL#
FRAME#
IRDY#
PAR
PHOLD#
PHLDA#
SERR#
STOP#
TRDY#
R442
R443
10k(NU)
10k
AEN
IOCHRDY
IOR#
IOW#
BR34
4.7kX4
MNR14
BR336
1kX4
MNR14
MEMR#
MEMW#
SA[0..19]
R183
4.7k(NU)
D39
RSTDRV
D40
RB751V-40(NU)
TP306
TP43
SD[0..15]
BR36
10kX4
MNR14
BR334
10kX4
MNR14
BR33
10kX4
MNR14
R444
10k
ZEROWS#
A20GATE
BIOSCS#
KBCCS#
MCCS#
PCS0#
PCS1#
RCIN#
MDMDWN#
DACK#[0..7]
TP52
TP51
TP53
DACK#5
DACK#6
DACK#7
DACK#4
TC
DREQ[0..7]
DREQ4
JW1
JUMPER
R439
100k
R440
100k
R441
100k(NU)
TP25
TP24
TP20
R143
10k
OUT2
PWBGD
R107
10k
VGASUS#
ENAUDIO#
R145
100k
R146
10k
TP19
TP18
FW82371EB
R437
R436
R433
R432
100K
R431
100K
DOCK#
OCCB#
ENFDD#
R549
0
IRQ[0..15]
TP36
ENIR
TP35
BR335
10kX4
MNR14
BR31
10kX4
MNR14
BR337
10kX4
MNR14
BR37
100kX4
MNR14
BR35
10kX4
MNR14
DREQ0
DREQ3
DREQ1
DREQ2
DREQ5
DREQ6
DREQ7
R72
10K
SERIRQ#
X2
32.768kHz
MC306
EPSON
R116
2.2M
C122
12p
C121
12p
INTA#
INTB#
INTC#
INTD#
A20M#
CPURST#
FERR#
IGNNE#
INIT#
INTR
NMI
SMI#
STPCLK#
CLK48
PCLKP4
CLK14P4
TP37
BR327
4.7kX4
MNR14
BR328
4.7kX4
MNR14
R326
1k
R327
1k
R448
R449
10k(NU)
D325
RB751V-40(NU)
R446
10
SUSCLK
SUSCLK1
PDA[0..2]
PDD[0..15]
C461
10p
PDCS1#
PDCS3#
PDDACK#
PDDREQ
PDIOR#
PDIOW#
PIORDY
PHOLD#
PHLDA#
R393
4.7K
R394
4.7K
R398
2.7K
BR333
10kX4
MNR14
BR26
10kX4
MNR14
BR27
10kX4
MNR14
TP32
TP29
TP30
TP31
TP33
SUSA#
SUSB#
R459
R458
0(NU)
SUSA#/SUSB#
VMCU
R31
10k
SW1
SSSS7B2-NC
ONSW#
TP28
TP26
TP27
BR28
15KX4
MNR14
R144
10k
D13
RB751V-40
LOWBAT#
R457
10k
D324
RB751V-40
R184
SUSREQ#
R185
0(NU)
ECSUSREQ#
USBOC0#
R434
15K
USBP0P
USBP0N
CPUSTP#
R453
R137
0(NU)
WSCI#
COVER_SW
REQ#[0..3]
R456
10K
D12
RB751V-40
SYSON#
R451
RI#
R452
10k
D323
RB751V-40
WUSCI#
PCISTP#
D14
RB751V-40
SMALM#
R395
0(NU)
R447
RSMRST#
R450
10k
D322
RB751V-40(U)
WUMDM
SMBCLK
SMBDAT
SUSA#
SUSB#
SUSC#
SUSSTAT1#
R454
10K
R396
10k(NU)
TP39
R113
100k
D30
RB751V-40
ATEINT#
R397
L2Z2
R455
10K
RTCSI#
D26
RB751V-40
R438
R435
10K
Q32
DTC114EUA
PMSLE#

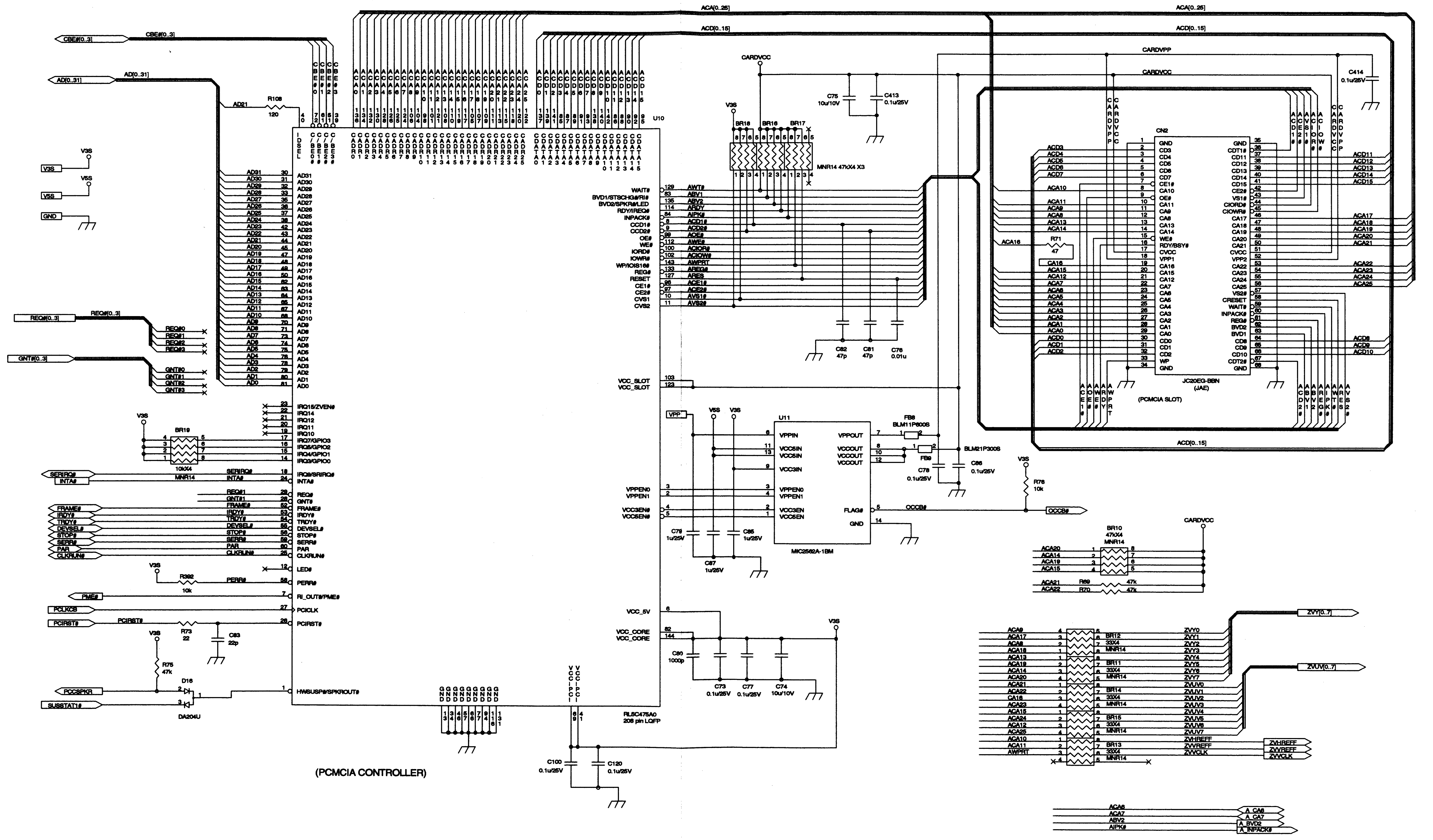
E-C07.DSF

# PC-A150E,H,G CLOCK GENERATOR AND DRIVER (REV 1.C)


V3S
VCPUIO
GND
FB6
BLM11P600S
C40
10u/10V
C41
0.1u/25V
C408
0.1u/25V
C406
0.1u/25V
FB7
BLM11P600S
C46
10u/10V
C407
0.1u/25V
C47
0.1u/25V
R542
10k
R544
10k
R186
10k
SMBCLK
SMBDAT
R177
33
R178
33
R51
10k
R50
10k
R49
10k(NU)
R181
10k(NU)
R187
10k
CPUSTP#
PCISTP#
SUSA#/SUSB#
X301
14.318MHz
CX-16F (KINSEKI)
C404
12p
C405
12p
U7
VDD
VDDHOST1,2
VDDHOST3,4
SDCLK
SDATA
CPUS#
PCISTP#
XI
XO
GND
HOST1
HOST2
HOST3
HOST4
HOST5,7
HOST6,8(DS)
PCIF(LE)
PCI(FS)
PCI(SEL1)
PCI(CSSS)
F1(PEN)
14.3(OE)
48M/24M(SEL0)
MK1492-02
R26
10
R25
10
R27
10
HCLK2
HCLK0
HCLK1
HCLK[0..2]
C43
22p(NU)
C42
22p(NU)
C44
22p(NU)
R48
10k(NU)
R42
10k(NU)
R47
33
R45
33
R43
33
R39
33
PCLKP4
PCLKMTXC
PCLKVID
PCLKCB
C71
22p(NU)
C70
22p(NU)
C64
22p(NU)
C63
22p(NU)
R46
10k
R44
10k(NU)
R41
10k(NU)
R40
10k(NU)
R38
33
CLK14NS
R37
10k
C62
47p(NU)
R34
0
R35
0
U6
CLK
O1
O2
GND
O4
O3
VCC
CGS74LCT2524(NU)
C394
10u/10V(NU)
C395
0.1u/25V(NU)
FB308
BLM11P600S(NU)
R33
33
R36
33
CLK14P4
CLK14VID
C59
47p(NU)
C61
47p(NU)
R28
33
CLKUSB
Should be 48MHz.
C48
22p(NU)

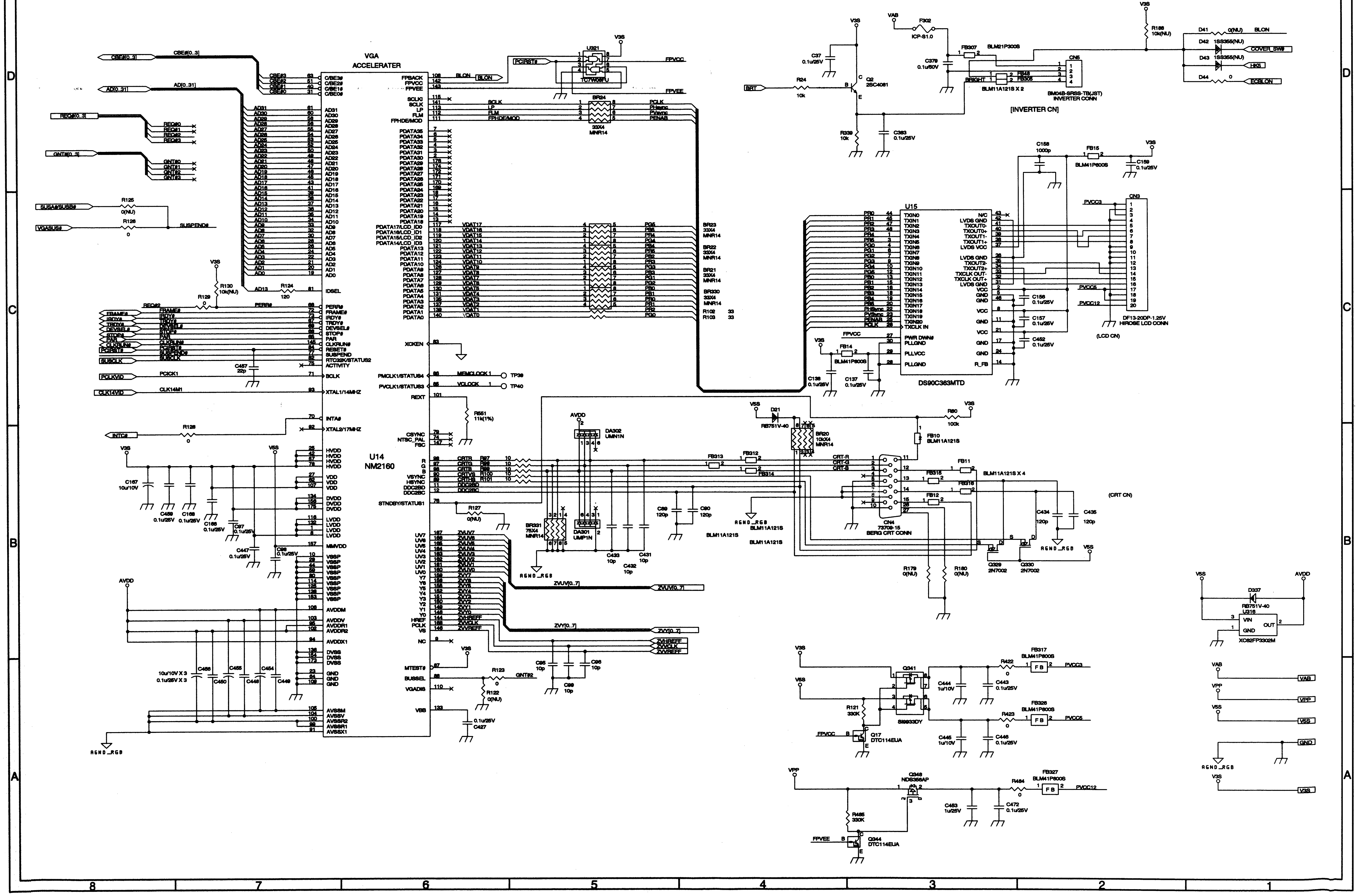
| SIGNAL | FUNCTION | DEFAULT | SETTING |
|---|---|---|---|
| OE | ALL CLOCK OUTPUTS | M | 0 TRISTATED<br>M,1 ENABLE |
| DS | HOST7,8 | 1 | 0 ENABLE<br>1 TEISTATED |
| SEL0 | 48M/24M FREQUENCY | 1 | 0 24.0<br>1 48.0 |
| LE | LOW EMI | 1 | 0 ON<br>1 OFF |
| CPUS#/CSSS/FS | HOST/PCI FREQUENCY | 1/1/1 | 1/X/0 60.0(OE=M) 50.0(OE=1)<br>1/X/1 66.6(OE=M) 75.0(OE=1)<br>M/0/X 33.33(OE=M) 33.33(OE=1) |
| SEL1 | F1 FREQUENCY | M | 0 PCI<br>M 14.318<br>1 24.0 |
| PEN | PCIF ENABLE | M | 0 Pin25=PCI Pin24=PCI<br>M Pin25=PCI Pin24=PCIF<br>1 Pin25=PCIF Pin24=PCIF |

# PC-A100E,H,G PCMCIA CONTROLLER (REV 1.C)

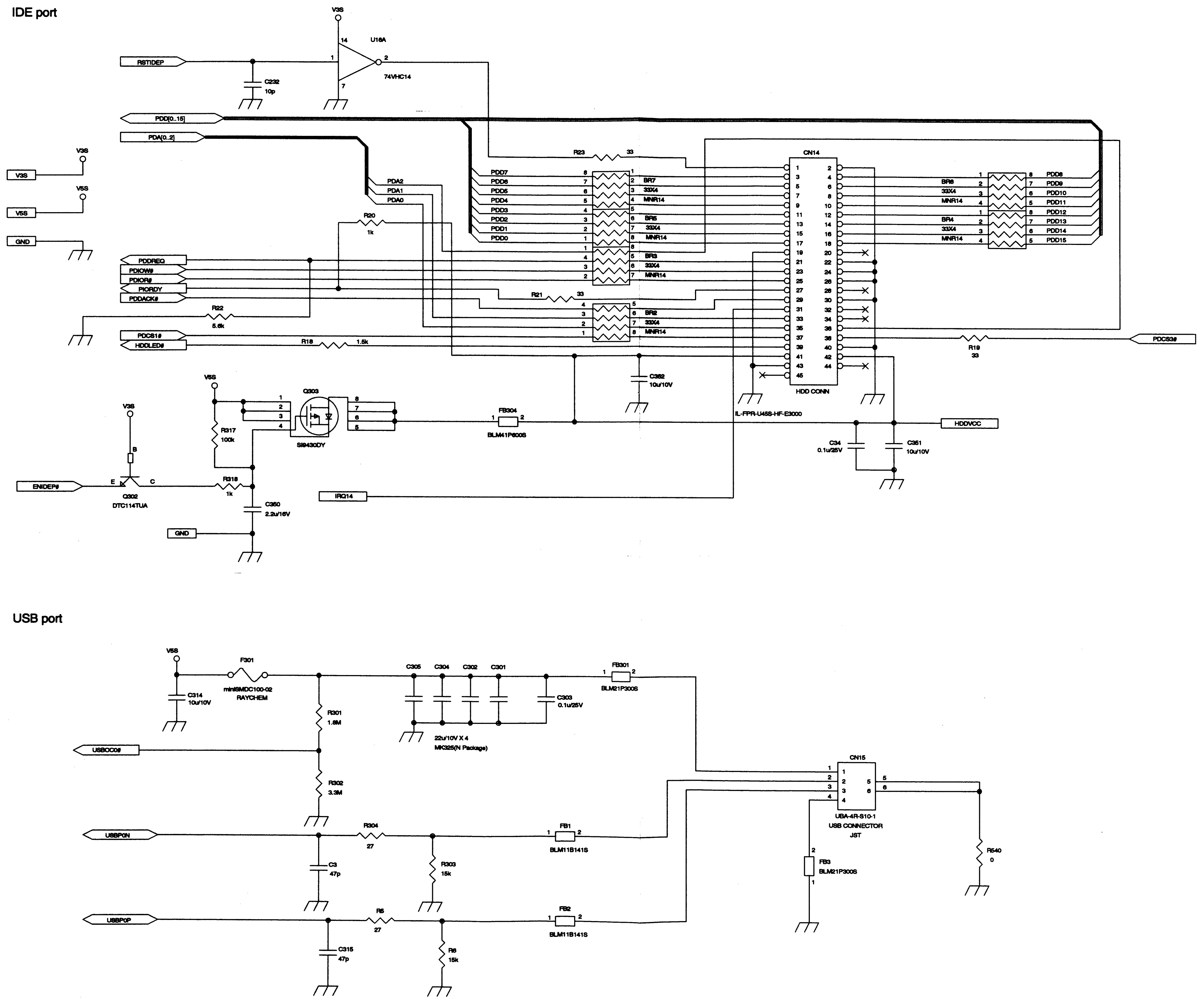

CBE#[0..3]
AD[0..31]
AD21
R108
120
V3S
V5S
GND
REQ#[0..3]
GNT#[0..3]
BR19
10kX4
MNR14
SERIRQ#
INTA#
FRAME#
IRDY#
TRDY#
DEVSEL#
STOP#
SERR#
PAR
CLKRUN#
R392
10k
PERR#
PME#
PCLKCB
PCIRST#
R73
22
C83
22p
R75
47k
D16
DA204U
PCCSPKR
SUSSTAT1#
U10
HWSUSP#/SPKROUT#
(PCMCIA CONTROLLER)
RL5C475A0
208 pin LQFP
VCC_SLOT
VCC_5V
VCC_CORE
C100
0.1u/25V
C120
0.1u/25V
ACA[0..25]
ACD[0..15]
CARDVCC
CARDVPP
C75
10u/10V
C413
0.1u/25V
BR18
BR16
BR17
MNR14 47kX4 X3
C82
47p
C81
47p
C76
0.01u
VPP
U11
MIC2562A-1BM
FB8
BLM11P600S
FB9
BLM21P300S
C78
0.1u/25V
C86
0.1u/25V
R76
10k
OCCB#
C79
1u/25V
C87
1u/25V
C85
1u/25V
C80
1000p
C73
0.1u/25V
C77
0.1u/25V
C74
10u/10V
C414
0.1u/25V
CN2
JC20EG-BBN
(JAE)
(PCMCIA SLOT)
R71
47
ACA16
BR10
47kX4
MNR14
R69
47k
R70
47k
BR12
BR11
BR14
BR15
BR13
33X4
MNR14
ZVY[0..7]
ZVUV[0..7]
ZVHREFF
ZVVREFF
ZVVCLK
A_CA6
A_CA7
A_BVD2
A_INPACK#

E-C09.DSF

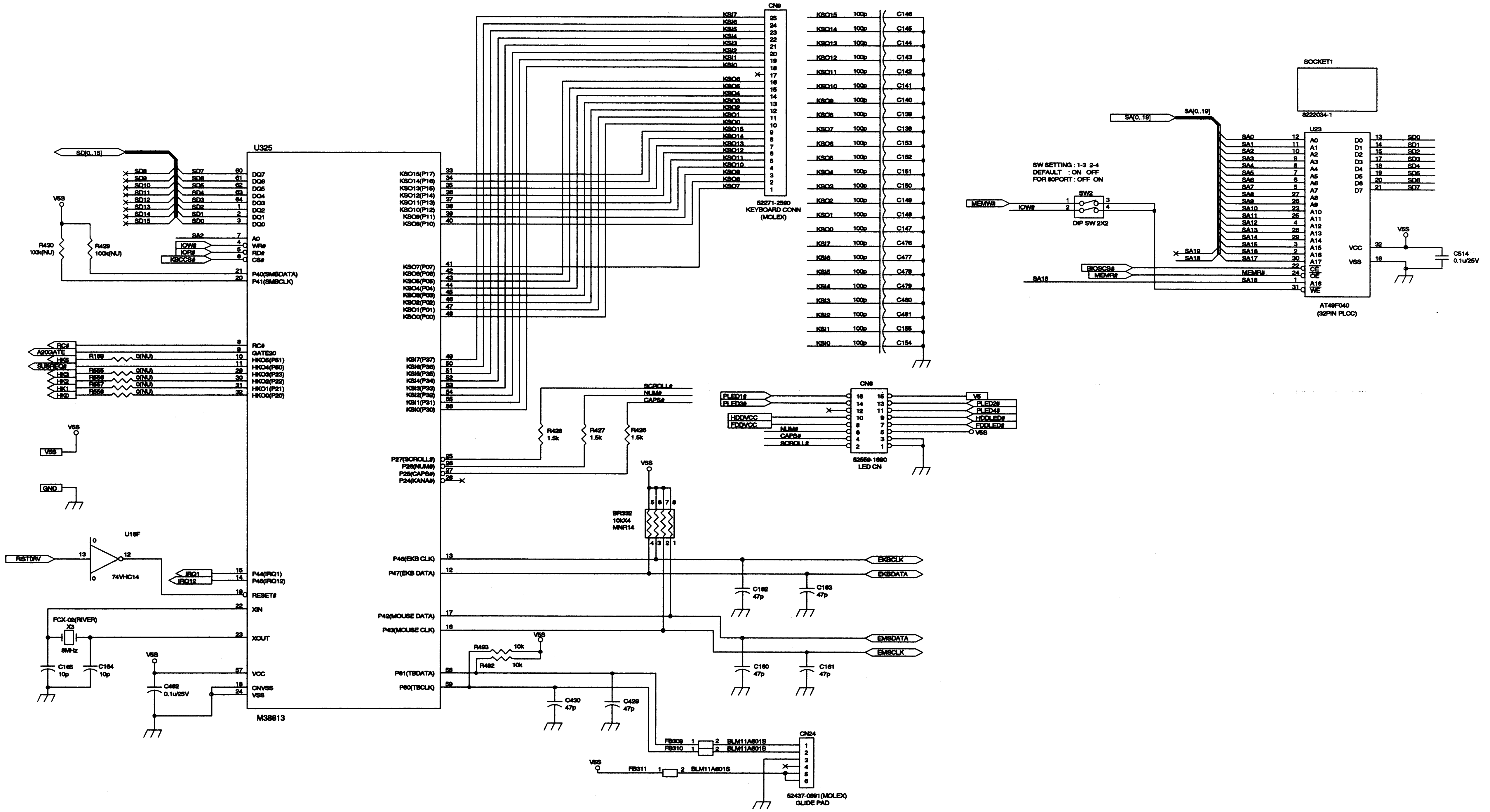
# PC-A150E,H,G VIDEO CONTROLLER (REV 1.C)


VGA
ACCELERATER
U14
NM2160
CBE#[0..3]
AD[0..31]
REQ#[0..3]
GNT#[0..3]
SUSA#/SUSB#
VGASUS#
SUSPEND#
R125
0(NU)
R126
0
R130
10k(NU)
R129
0
R124
120
IDSEL
FRAME#
IRDY#
TRDY#
DEVSEL#
STOP#
PAR
CLKRUN#
PCIRST#
SUSCLK
PCLKVID
CLK14VID
INTC#
R128
C457
22p
HVDD
VDD
DVDD
LVDD
MMVDD
VSSP
AVDDM
AVDDV
AVDDR1
AVDDR2
AVDDX1
DVSS
GND
AVSSM
AVSSV
AVSSR2
AVSSR1
AVSSX1
AGND_RGB
AVDD
V3S
V5S
C167
10u/10V
C459
0.1u/25V
C168
0.1u/25V
C166
0.1u/25V
C97
0.1u/25V
C447
0.1u/25V
C98
0.1u/25V
10u/10V X 3
0.1u/25V X 3
C458
C460
C455
C448
C454
C449
FPBACK
FPVCC
FPVEE
BLON
SCLK
LP
FLM
FPHDE/MOD
PDATA35
PDATA17/LCD_ID0
PDATA16/LCD_ID1
PDATA15/LCD_ID2
PDATA14/LCD_ID3
VDAT17
VDAT0
XCKEN
PMCLK1/STATUS4
PVCLK1/STATUS3
MEMCLOCK
VCLOCK
TP39
TP40
REXT
R551
11k(1%)
CSYNC
NTSC_PAL
FSC
R
G
B
VSYNC
HSYNC
DDC2BD
DDC2BC
STNDBY/STATUS1
R127
0(NU)
UV7
UV0
Y7
Y0
HREF
PCLK
VS
NC
MTEST#
BUSSEL
VGADIS
VBB
ZVUV[0..7]
ZVY[0..7]
ZVHREFF
ZVVCLK
ZVVREFF
C95
10p
C96
10p
C99
10p
R123
0
R122
0(NU)
GNT#2
C427
0.1u/25V
U321
TC7W08FU
PCIRST#
BR24
33X4
MNR14
PCLK
PHsync
PVsync
PENAB
BR23
BR22
BR21
BR330
33X4
MNR14
R102 33
R103 33
AVDD
DA302
UMN1N
DA301
UMP1N
BR331
75X4
MNR14
R97
R98
R99
R100
R101
CRTR
CRTG
CRTB
CRTHS
CRTVS
DDC2BD
DDC2BC
C89
120p
C90
120p
C433
10p
C432
10p
C431
10p
FB313
FB312
FB314
BLM11A121S
V3S
V5S
D21
RB751V-40
BR20
10KX4
MNR14
R80
100k
FB10
BLM11A121S
FB11
FB315
FB316
FB12
BLM11A121S X 4
CRT-R
CRT-G
CRT-B
CN4
73709-15
BERG CRT CONN
(CRT CN)
C434
120p
C435
120p
Q329
2N7002
Q330
2N7002
R179
0(NU)
R180
0(NU)
VAB
F302
ICP-S1.0
FB307
BLM21P300S
C37
0.1u/25V
C379
0.1u/50V
BRT
R24
10k
Q2
2SC4081
R339
10k
C383
0.1u/25V
BRIGHT
FB48
FB305
BLM11A121S X 2
CN5
BM04B-SRSS-TB(JST)
INVERTER CONN
[INVERTER CN]
R186
10k(NU)
D41
D42
1SS355(NU)
D43
1SS355(NU)
D44
BLON
COVER_SW#
HK5
ECBLON
C158
1000p
FB15
BLM41P800S
C159
0.1u/25V
U15
DS90C363MTD
TXIN0
TXCLK IN
PWR DWN#
PLLGND
PLLVCC
N/C
LVDS GND
TXOUT0-
TXOUT0+
TXOUT1-
TXOUT1+
LVDS VCC
TXOUT2-
TXOUT2+
TXCLK OUT-
TXCLK OUT+
VCC
GND
R_FB
FPVCC
FB14
BLM41P800S
C136
0.1u/25V
C137
0.1u/25V
C156
0.1u/25V
C157
0.1u/25V
C452
0.1u/25V
PVCC3
PVCC5
PVCC12
CN3
DF13-20DP-1.25V
HIROSE LCD CONN
(LCD CN)
V5S
AVDD
D337
RB751V-40
U316
VIN
GND
OUT
XC62FP3302M
Q341
SI9933DY
R422
0
FB317
BLM41P800S
C444
1u/10V
C443
0.1u/25V
R121
330K
Q17
DTC114EUA
FPVCC
R423
0
FB326
BLM41P800S
C445
1u/10V
C446
0.1u/25V
VPP
Q348
NDS356AP
R484
0
FB327
BLM41P800S
C453
1u/25V
C472
0.1u/25V
R485
330K
FPVEE
Q344
DTC114EUA
FB
VAB
VPP
V5S
GND
AGND_RGB
V3S

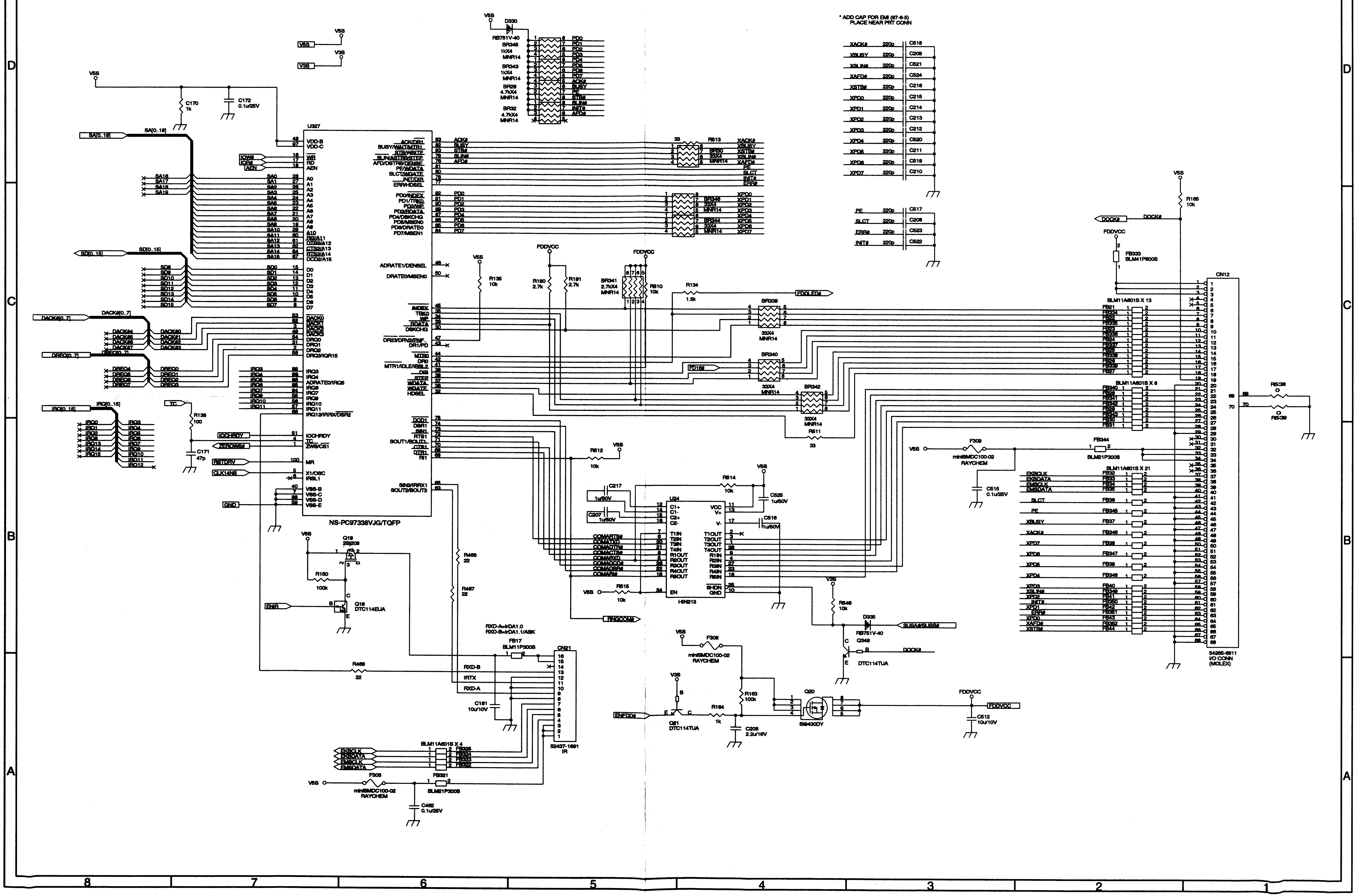
# PC-A150E,H,G IDE/USB INTERFACE (REV 1.C)


IDE port
V3S
U16A
74VHC14
RSTIDEP
C232
10p
PDD[0..15]
PDA[0..2]
V3S
V5S
GND
PDA2
PDA1
PDA0
R23
33
R20
1k
PDD7
PDD6
PDD5
PDD4
PDD3
PDD2
PDD1
PDD0
BR7
33X4
MNR14
BR5
BR3
BR2
CN14
HDD CONN
IL-FPR-U45S-HF-E3000
BR6
BR4
PDD8
PDD9
PDD10
PDD11
PDD12
PDD13
PDD14
PDD15
PDDREQ
PDIOW#
PDIOR#
PIORDY
PDDACK#
R21
33
R22
5.6k
PDCS1#
HDDLED#
R18
1.5k
R19
33
PDCS3#
C362
10u/10V
V5S
Q303
Si9430DY
R317
100k
FB304
BLM41P600S
HDDVCC
C34
0.1u/25V
C351
10u/10V
V3S
Q302
DTC114TUA
ENIDEP#
R318
1k
C360
2.2u/16V
IRQ14
GND
USB port
V5S
F301
miniSMDC100-02
RAYCHEM
C314
10u/10V
R301
1.8M
C305
C304
C302
C301
22u/10V X 4
MK325(N Package)
C303
0.1u/25V
FB301
BLM21P300S
USBOC0#
R302
3.3M
CN15
UBA-4R-S10-1
USB CONNECTOR
JST
USBP0N
R304
27
C3
47p
R303
15k
FB1
BLM11B141S
FB3
BLM21P300S
R540
0
USBP0P
R5
27
C315
47p
R6
15k
FB2
BLM11B141S

# PC-A150E,H,G BIOS AND KEYBOARD CONT. (REV 1.C)

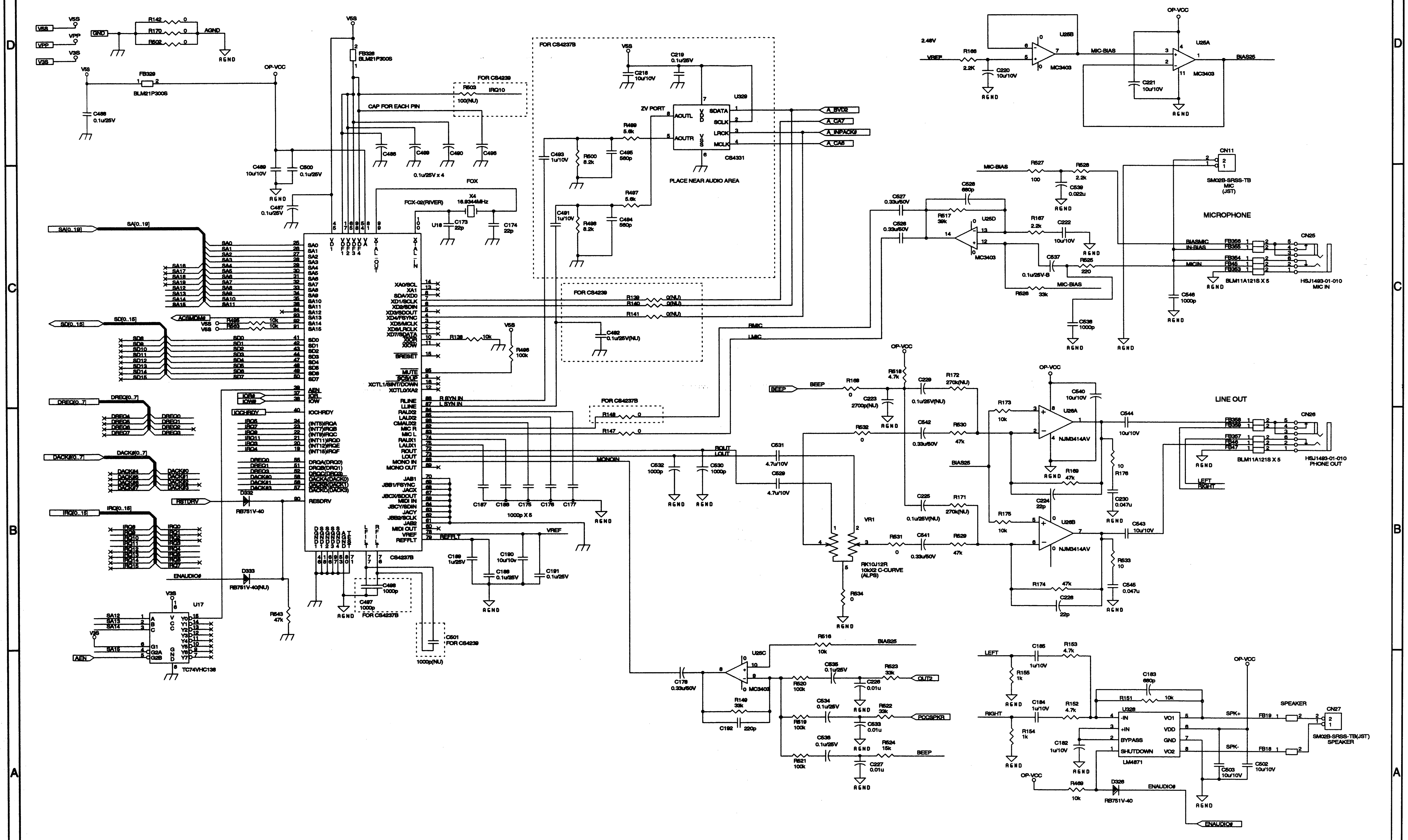

U325
M38813
SD[0..15]
SD8
SD9
SD10
SD11
SD12
SD13
SD14
SD15
SD7 60 DQ7
SD6 61 DQ6
SD5 62 DQ5
SD4 63 DQ4
SD3 64 DQ3
SD2 1 DQ2
SD1 2 DQ1
SD0 3 DQ0
SA2 7 A0
IOW# 4 WR#
IOR# 5 RD#
KBCCS# 6 CS#
21 P40(SMBDATA)
20 P41(SMBCLK)
V5S
R430 100k(NU)
R429 100k(NU)
RC# 8 RC#
A20GATE 9 GATE20
HK5 R189 0(NU) 10 HKO5(P51)
SUSREQ# 11 HKO4(P50)
HK3 R555 0(NU) 29 HKO3(P23)
HK2 R556 0(NU) 30 HKO2(P22)
HK1 R557 0(NU) 31 HKO1(P21)
HK0 R558 0(NU) 32 HKO0(P20)
V5S
GND
U16F
RSTDRV
13
12
0
74VHC14
IRQ1 15 P44(IRQ1)
IRQ12 14 P45(IRQ12)
19 RESET#
22 XIN
23 XOUT
FCX-02(RIVER)
X3
8MHz
C165 10p
C164 10p
V5S
C482 0.1u/25V
57 VCC
18 CNVSS
24 VSS
KSO15(P17) 33
KSO14(P16) 34
KSO13(P15) 35
KSO12(P14) 36
KSO11(P13) 37
KSO10(P12) 38
KSO9(P11) 39
KSO8(P10) 40
KSO7(P07) 41
KSO6(P06) 42
KSO5(P05) 43
KSO4(P04) 44
KSO3(P03) 45
KSO2(P02) 46
KSO1(P01) 47
KSO0(P00) 48
KSI7(P37) 49
KSI6(P36) 50
KSI5(P35) 51
KSI4(P34) 52
KSI3(P33) 53
KSI2(P32) 54
KSI1(P31) 55
KSI0(P30) 56
P27(SCROLL#) 25
P26(NUM#) 26
P25(CAPS#) 27
P24(KANA#) 28
P46(EKB CLK) 13
P47(EKB DATA) 12
P42(MOUSE DATA) 17
P43(MOUSE CLK) 16
P61(TBDATA) 58
P60(TBCLK) 59
CN9
KSI7 25
KSI6 24
KSI5 23
KSI4 22
KSI3 21
KSI2 20
KSI1 19
KSI0 18
17
KSO6 16
KSO5 15
KSO4 14
KSO3 13
KSO2 12
KSO1 11
KSO0 10
KSO15 9
KSO14 8
KSO13 7
KSO12 6
KSO11 5
KSO10 4
KSO9 3
KSO8 2
KSO7 1
52271-2590
KEYBOARD CONN
(MOLEX)
KSO15 100p C146
KSO14 100p C145
KSO13 100p C144
KSO12 100p C143
KSO11 100p C142
KSO10 100p C141
KSO9 100p C140
KSO8 100p C139
KSO7 100p C138
KSO6 100p C153
KSO5 100p C152
KSO4 100p C151
KSO3 100p C150
KSO2 100p C149
KSO1 100p C148
KSO0 100p C147
KSI7 100p C476
KSI6 100p C477
KSI5 100p C478
KSI4 100p C479
KSI3 100p C480
KSI2 100p C481
KSI1 100p C155
KSI0 100p C154
SCROLL#
NUM#
CAPS#
R428 1.5k
R427 1.5k
R426 1.5k
CN8
PLED1# 16
PLED3# 14
12
HDDVCC 10
FDDVCC 8
NUM# 6
CAPS# 4
SCROLL# 2
15 V5
13 PLED2#
11 PLED4#
9 HDDLED#
7 FDDLED#
5 V5S
3
1
52559-1690
LED CN
V5S
BR332
10kX4
MNR14
5 6 7 8
4 3 2 1
EKBCLK
EKBDATA
C162 47p
C163 47p
EMSDATA
EMSCLK
C160 47p
C161 47p
R493 10k
R492 10k
V5S
C430 47p
C429 47p
FB309 1 2 BLM11A601S
FB310 1 2 BLM11A601S
V5S
FB311 1 2 BLM11A601S
CN24
1
2
3
4
5
6
52437-0691(MOLEX)
GLIDE PAD
SOCKET1
8222034-1
SA[0..19]
SA[0..19]
U23
SA0 12 A0
SA1 11 A1
SA2 10 A2
SA3 9 A3
SA4 8 A4
SA5 7 A5
SA6 6 A6
SA7 5 A7
SA8 27 A8
SA9 26 A9
SA10 23 A10
SA11 25 A11
SA12 4 A12
SA13 28 A13
SA14 29 A14
SA15 3 A15
SA16 2 A16
SA17 30 A17
SA19
SA18
BIOSCS# 22 CE
MEMR# 24 OE
SA18 1 A18
31 WE
D0 13 SD0
D1 14 SD1
D2 15 SD2
D3 17 SD3
D4 18 SD4
D5 19 SD5
D6 20 SD6
D7 21 SD7
VCC 32
VSS 16
V5S
C514 0.1u/25V
AT49F040
(32PIN PLCC)
SW SETTING : 1-3 2-4
DEFAULT : ON OFF
FOR 80PORT : OFF ON
SW2
MEMW#
IOW#
1
2
3
4
DIP SW 2X2
SA18

# PC-A150E,H,G SUPER I/O (REV 1.C)

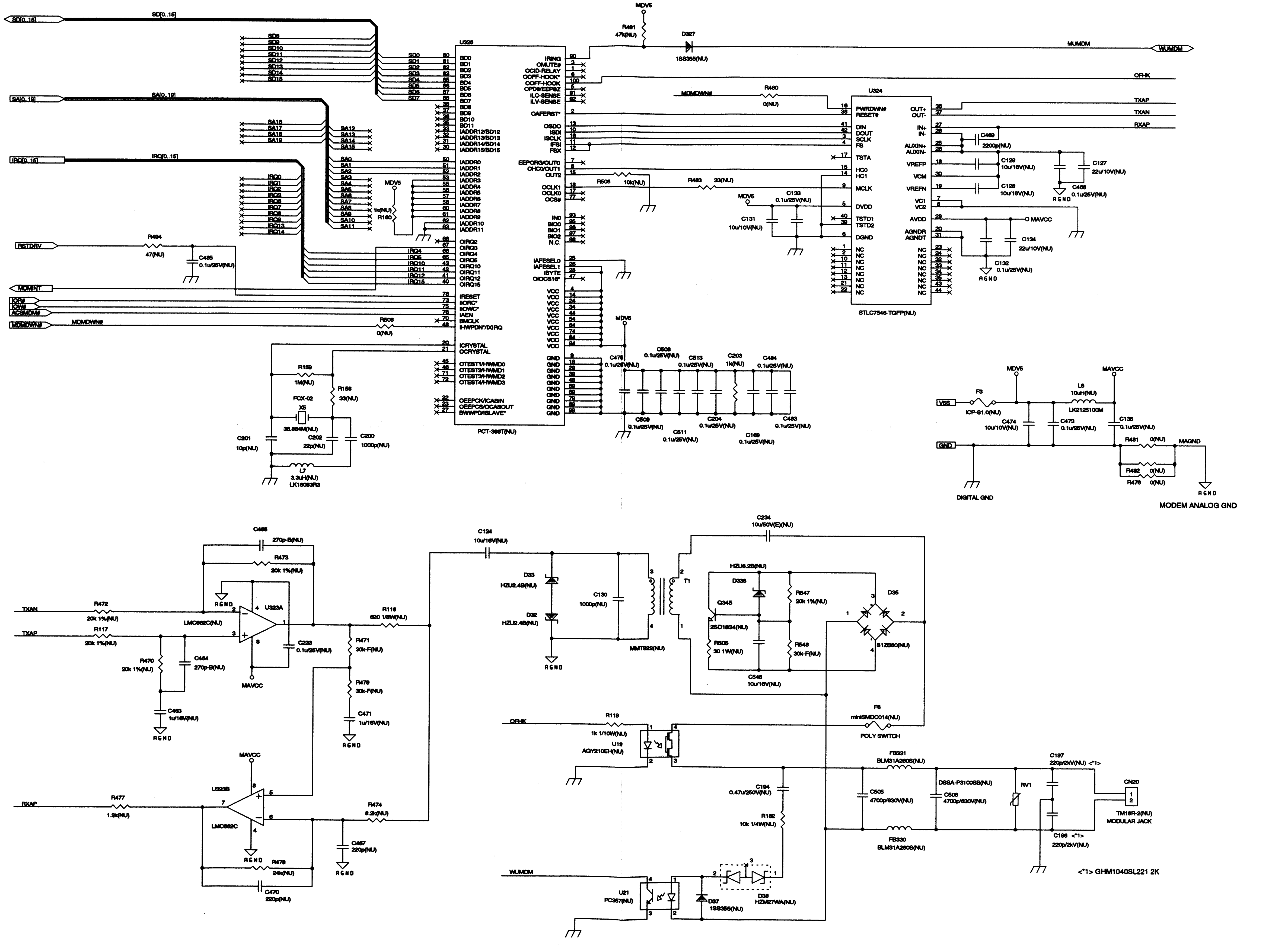

8
7
6
5
4
3
2
1
D
C
B
A
* ADD CAP FOR EMI (97-6-5)
PLACE NEAR PRT CONN
U327
NS-PC97338VJG/TQFP
VDD-B
VDD-C
WR
RD
AEN
IOCHRDY
TC
ZWS/CS1
MR
X1/OSC
IRSL1
VSS-B
VSS-C
VSS-D
VSS-E
SA[0..19]
SD[0..15]
DACK#[0..7]
DREQ[0..7]
IRQ[0..15]
IOW#
IOR#
AEN
IOCHRDY
ZEROWS#
RSTDRV
CLK14NS
GND
V5S
V3S
C170
1k
C172
0.1u/25V
R136
100
C171
47p
D330
RB751V-40
BR345
BR343
BR29
BR32
MNR14
BR313
BR30
BR346
BR344
BR339
BR340
BR342
BR341
2.7KX4
R510
10k
R134
1.5k
FDDLED#
FDDVCC
R135
10k
R190
2.7k
R191
2.7k
R511
33
R512
10k
R514
10k
R515
10k
C217
1u/50V
C207
1u/50V
C525
1u/50V
C516
1u/50V
U24
HIN213
RINGCOM#
Q19
2SJ208
R150
100k
Q18
DTC114EUA
ENIR
R466
22
R467
22
R468
22
RXD-A=IrDA1.0
RXD-B=IrDA1.1/ASK
FB17
BLM11P300S
CN21
52437-1691
IR
C181
10u/10V
BLM11A601S X 4
EKBCLK
EKBDATA
EMSCLK
EMSDATA
F308
miniSMDC100-02
RAYCHEM
FB321
BLM21P300S
C462
0.1u/25V
F306
R163
100k
R164
1k
C206
2.2u/16V
Q21
DTC114TUA
ENFDD#
Q20
SI9430DY
C512
10u/10V
R546
10k
D335
RB751V-40
SUSA#/SUSB#
Q349
DTC114TUA
DOCK#
R165
10k
FB333
BLM41P600S
CN12
54265-6811
I/O CONN
(MOLEX)
BLM11A601S X 13
BLM11A601S X 8
BLM11A601S X 21
F309
C515
0.1u/25V
FB344
BLM21P300S
R536
R539
XACK#
XBUSY
XSLIN#
XAFD#
XSTB#
XPD0
XPD1
XPD2
XPD3
XPD4
XPD5
XPD6
XPD7
PE
SLCT
ERR#
INIT#
220p

E-C13.DSF

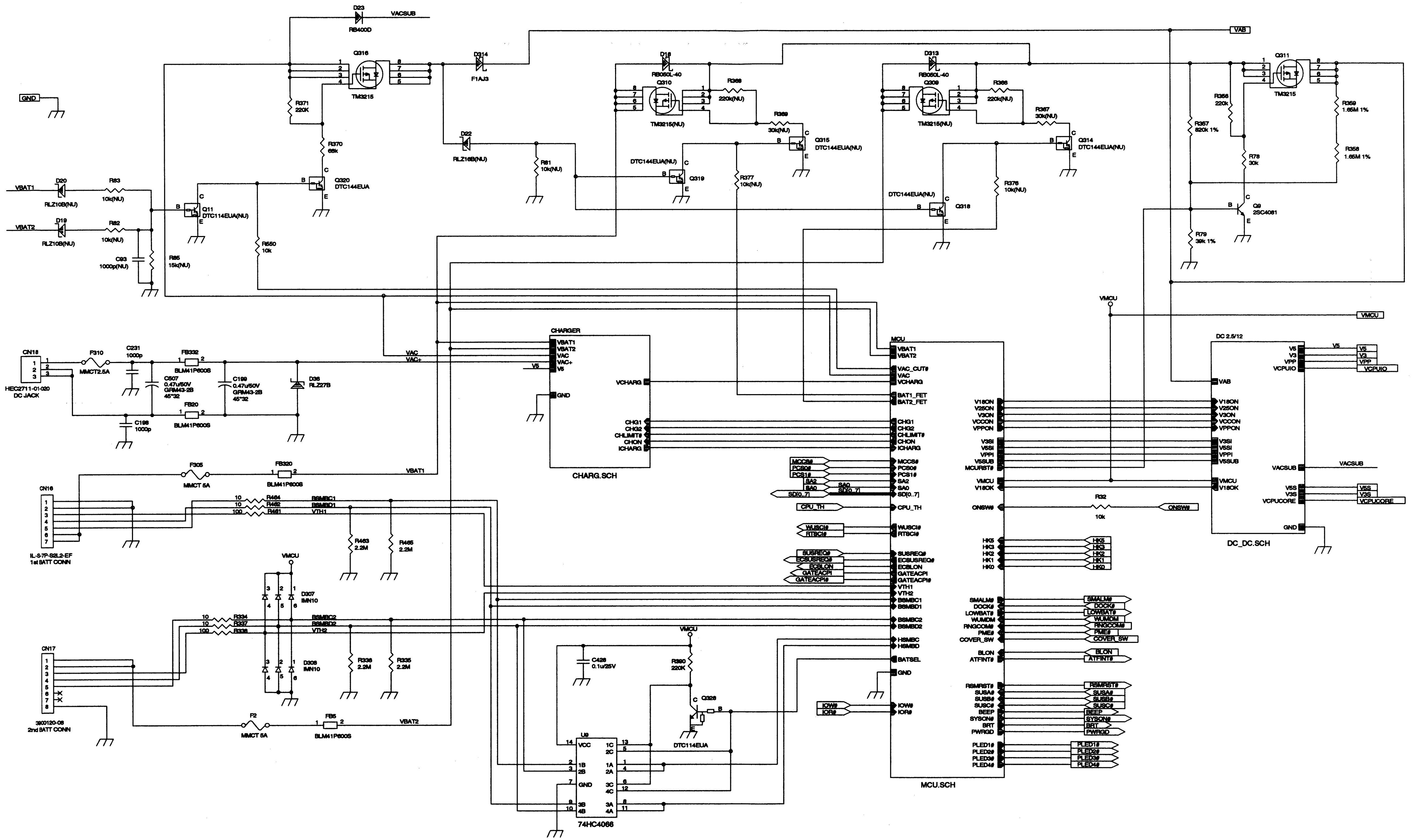
# PC-A150E,H,G AUDIO CONTROLLER (REV 1.C)


FOR CS4237B
FOR CS4239
CAP FOR EACH PIN
0.1u/25V x 4
FOX
FCX-02(RIVER)
X4
16.9344MHz
CS4237B
CS4331
U329
ZV PORT
PLACE NEAR AUDIO AREA
A_BVD2
A_CA7
A_INPACK#
A_CA8
SA[0..19]
SD[0..15]
DREQ[0..7]
DACK#[0..7]
IRQ[0..15]
RSTDRV
AEN
ENAUDIO#
TC74VHC138
U17
RB751V-40
RB751V-40(NU)
MIC-BIAS
BIAS25
VREF
2.46V
MC3403
U25A
U25B
U25C
U25D
CN11
SM02B-SRSS-TB
MIC
(JST)
MICROPHONE
CN25
BLM11A121S X 5
HSJ1493-01-010
MIC IN
LINE OUT
CN26
PHONE OUT
NJM3414AV
U26A
U26B
VR1
RK10J12R
10KX2 C-CURVE
(ALPS)
BEEP
RMIC
LMIC
ROUT
LOUT
MONOIN
LEFT
RIGHT
OUT2
PCCSPKR
U328
LM4871
SPEAKER
CN27
SM02B-SRSS-TB(JST)
SPK+
SPK-
OP-VCC
AGND
V5S
VPP
V3S
GND
1000p X 5
BLM21P300S
FB328
FB329
D326
D332
D333

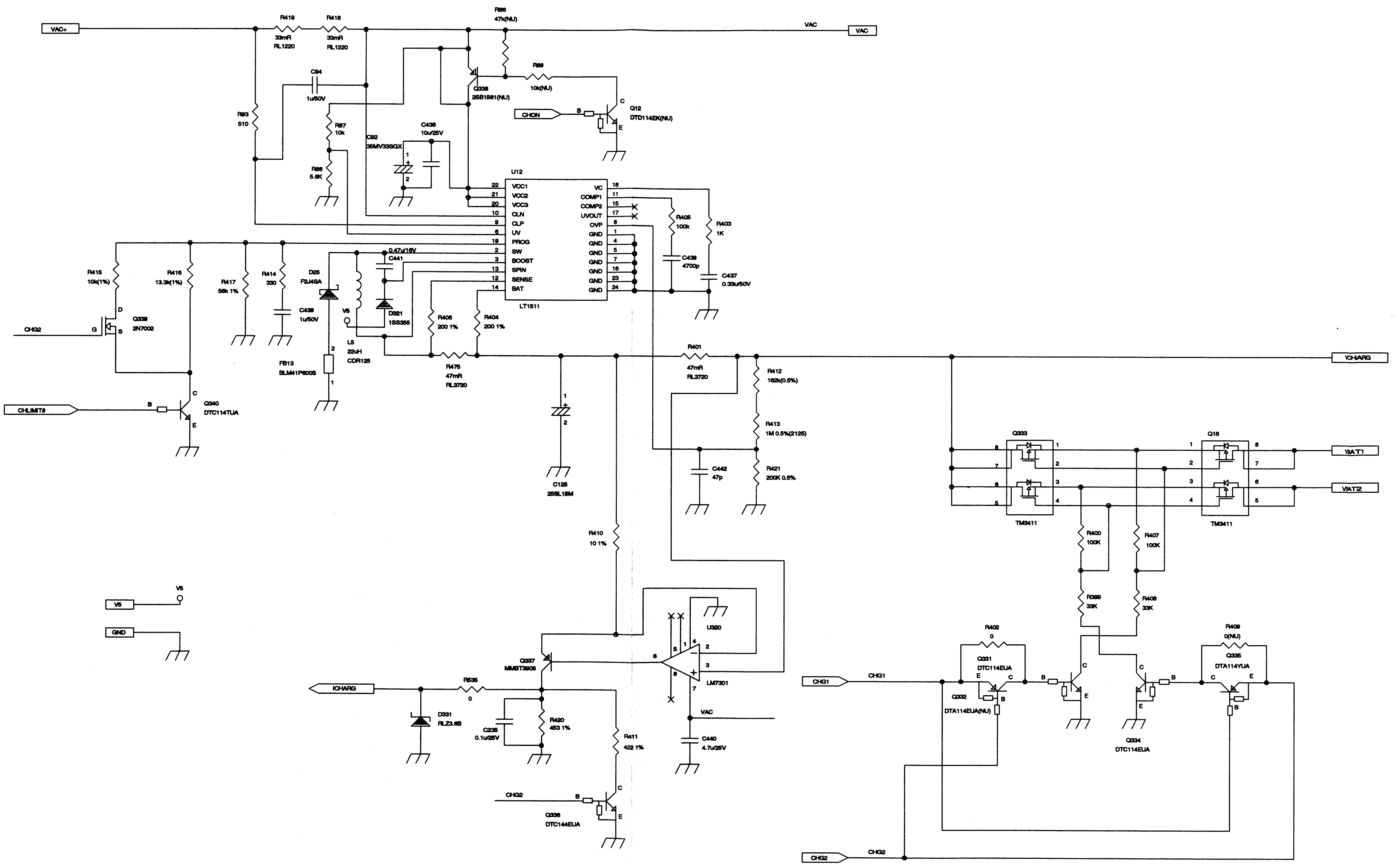
# A150E,H,G 56k/SOFT MODEM (REV 1.C)


SD[0..15]
SA[0..19]
IRQ[0..15]
RSTDRV
MDMINT
IOR#
IOW#
ACSMDM#
MDMDWN#
U326
PCT-398T(NU)
MDV5
R491
47k(NU)
D327
1SS355(NU)
MUMDM
WUMDM
OFHK
R480
0(NU)
U324
STLC7546-TQFP(NU)
TXAP
TXAN
RXAP
C469
2200p(NU)
C129
10u/16V(NU)
C128
10u/16V(NU)
C127
22u/10V(NU)
C468
0.1u/25V(NU)
C133
0.1u/25V(NU)
C131
10u/10V(NU)
C134
22u/10V(NU)
C132
0.1u/25V(NU)
MAVCC
AGND
R494
47(NU)
C485
0.1u/25V(NU)
R160
1k(NU)
R508
0(NU)
R506
10k(NU)
R483
33(NU)
R159
1M(NU)
R158
33(NU)
FCX-02
X5
38.864M(NU)
C201
10p(NU)
C202
22p(NU)
C200
1000p(NU)
L7
3.3uH(NU)
LK16083R3
C475
C508
C513
C203
C484
C509
C511
C204
C169
C483
VSS
F3
ICP-S1.0(NU)
L6
10uH(NU)
LK2125100M
C474
10u/10V(NU)
C473
0.1u/25V(NU)
C135
0.1u/25V(NU)
GND
R481
0(NU)
R482
0(NU)
R476
0(NU)
MAGND
DIGITAL GND
MODEM ANALOG GND
C466
270p-B(NU)
R473
20k 1%(NU)
TXAN
R472
20k 1%(NU)
TXAP
R117
20k 1%(NU)
U323A
LMC662C(NU)
R470
20k 1%(NU)
C464
270p-B(NU)
C463
1u/16V(NU)
C233
0.1u/25V(NU)
R118
620 1/8W(NU)
R471
30k-F(NU)
R479
30k-F(NU)
C471
1u/16V(NU)
C124
10u/16V(NU)
D33
HZU2.4B(NU)
D32
HZU2.4B(NU)
C130
1000p(NU)
T1
MMT822(NU)
C234
10u/50V(E)(NU)
HZU6.2B(NU)
D338
Q345
2SD1834(NU)
R505
30 1W(NU)
R547
20k 1%(NU)
R548
30k-F(NU)
C546
10u/16V(NU)
D35
S1ZB60(NU)
F6
miniSMDC014(NU)
POLY SWITCH
OFHK
R119
1k 1/10W(NU)
U19
AQY210EH(NU)
FB331
BLM31A260S(NU)
C197
220p/2kV(NU) <*1>
C505
4700p/630V(NU)
DSSA-P3100SB(NU)
C506
4700p/630V(NU)
RV1
CN20
TM16R-2(NU)
MODULAR JACK
FB330
BLM31A260S(NU)
C198 <*1>
220p/2kV(NU)
<*1> GHM1040SL221 2K
C194
0.47u/250V(NU)
R162
10k 1/4W(NU)
WUMDM
U21
PC357(NU)
D37
1SS355(NU)
D38
HZM27WA(NU)
MAVCC
U323B
LMC662C
RXAP
R477
1.2k(NU)
R474
8.2k(NU)
C467
220p(NU)
R478
24k(NU)
C470
220p(NU)

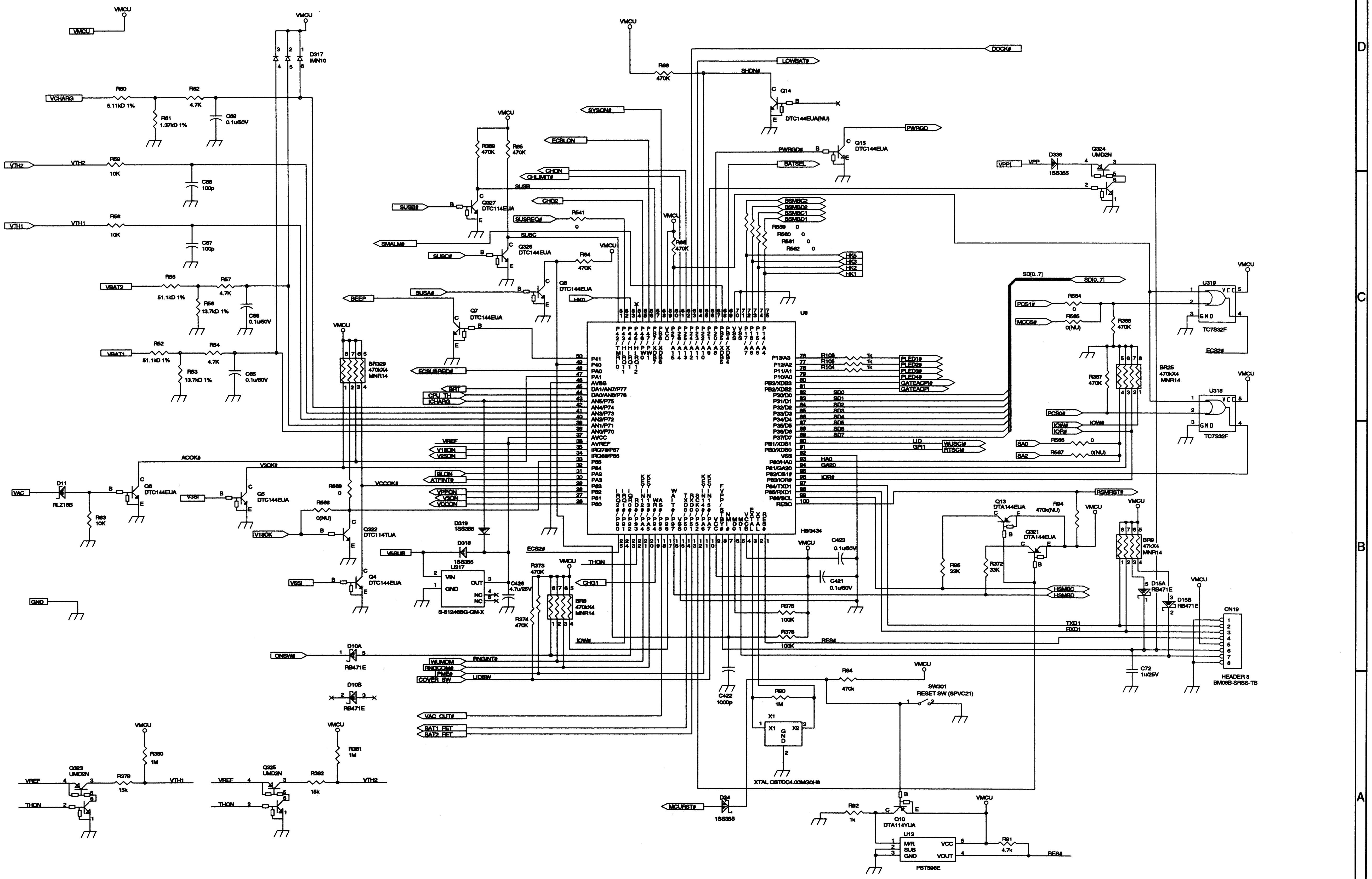
# PC-A150E,H,G CHARGER MAIN (REV 1.C)


D23
RB400D
VACSUB
Q316
TM3215
R371
220K
R370
68k
Q320
DTC144EUA
D314
F1AJ3
D22
RLZ16B(NU)
R81
10k(NU)
D18
RB050L-40
Q310
TM3215(NU)
R368
220k(NU)
R369
30k(NU)
Q315
DTC144EUA(NU)
Q319
R377
10k(NU)
D313
RB050L-40
Q309
TM3215(NU)
R366
220k(NU)
R367
30k(NU)
Q314
DTC144EUA(NU)
Q318
R376
10k(NU)
VAB
Q311
TM3215
R356
220k
R357
820k 1%
R78
30k
R79
39k 1%
Q9
2SC4081
R359
1.65M 1%
R358
1.65M 1%
GND
VBAT1
D20
RLZ10B(NU)
R83
10k(NU)
VBAT2
D19
RLZ10B(NU)
R82
10k(NU)
C93
1000p(NU)
R85
15k(NU)
Q11
DTC114EUA(NU)
R550
10k
CN18
HEC2711-01-020
DC JACK
F310
MMCT2.5A
C231
1000p
FB332
BLM41P600S
C507
0.47u/50V
GRM43-2B
45*32
C199
0.47u/50V
GRM43-2B
45*32
D36
RLZ27B
FB20
BLM41P600S
C198
1000p
VAC
VAC+
V5
CHARGER
VBAT1
VBAT2
VAC
VAC+
V5
GND
VCHARG
CHG1
CHG2
CHLIMIT#
CHON
ICHARG
CHARG.SCH
F305
MMCT 5A
FB320
BLM41P600S
VBAT1
CN16
IL-S-7P-S2L2-EF
1st BATT CONN
R464
R462
R461
BSMBC1
BSMBD1
VTH1
R463
2.2M
R465
2.2M
VMCU
D307
IMN10
D308
IMN10
R334
R337
R338
BSMBC2
BSMBD2
VTH2
R336
2.2M
R335
2.2M
CN17
3800120-08
2nd BATT CONN
F2
MMCT 5A
FB5
BLM41P600S
VBAT2
C428
0.1u/25V
R390
220K
Q326
DTC114EUA
U9
74HC4066
VCC
GND
MCU
VBAT1
VBAT2
VAC_CUT#
VAC
VCHARG
BAT1_FET
BAT2_FET
CHG1
CHG2
CHLIMIT#
CHON
ICHARG
MCCS#
PCS0#
PCS1#
SA2
SA0
SD[0..7]
CPU_TH
WUSCI#
RTSCI#
SUSREQ#
ECSUSREQ#
ECBLON
GATEACPI
GATEACPI#
VTH1
VTH2
BSMBC1
BSMBD1
BSMBC2
BSMBD2
HSMBC
HSMBD
BATSEL
GND
IOW#
IOR#
V18ON
V25ON
V3ON
VCCON
VPPON
V3SI
V5SI
VPPI
V5SUB
MCURST#
VMCU
V18OK
ONSW#
R32
10k
HK5
HK3
HK2
HK1
HK0
SMALM#
DOCK#
LOWBAT#
WUMDM
RNGCOM#
PME#
COVER_SW
BLON
ATFINT#
RSMRST#
SUSA#
SUSB#
SUSC#
BEEP
SYSON#
BRT
PWRGD
PLED1#
PLED2#
PLED3#
PLED4#
MCU.SCH
VMCU
DC 2.5/12
V5
V3
VPP
VCPUIO
VAB
VSSI
VACSUB
V5S
V3S
VCPUCORE
GND
DC_DC.SCH

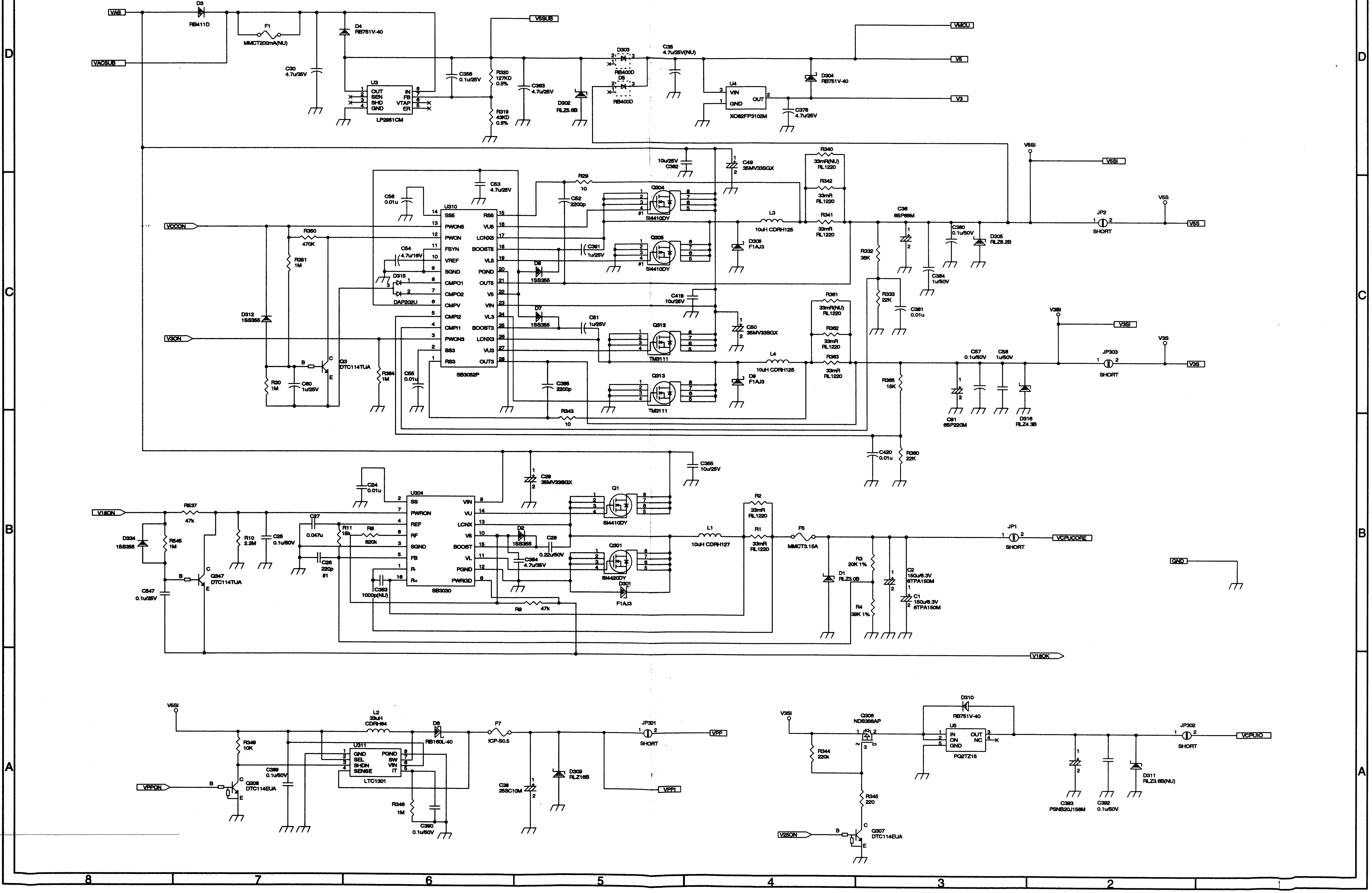
# PC-A150E,H,G SMART CHARGER (REV 1.C)


VAC+
R419
33mR
RL1220
R418
33mR
RL1220
R86
47k(NU)
VAC
C94
1u/50V
Q338
2SB1561(NU)
R89
10k(NU)
CHON
B
C
E
Q12
DTD114EK(NU)
R93
510
R87
10k
R88
5.6K
C92
35MV33SGX
C436
10u/25V
U12
22 VCC1
21 VCC2
20 VCC3
10 CLN
9 CLP
6 UV
19 PROG
2 SW
3 BOOST
13 SPIN
12 SENSE
14 BAT
VC 18
COMP1 11
COMP2 15
UVOUT 17
OVP 8
GND 1
GND 4
GND 5
GND 7
GND 16
GND 23
GND 24
LT1511
R405
100k
C439
4700p
R403
1K
C437
0.33u/50V
R415
10k(1%)
R416
13.3k(1%)
R417
56k 1%
R414
330
C438
1u/50V
D25
F2J4SA
0.47u/16V
C441
D321
1SS355
V5
L5
22uH
CDR125
FB13
BLM41P600S
R406
200 1%
R404
200 1%
R475
47mR
RL3720
CHG2
G
D
S
Q339
2N7002
CHLIMIT#
Q340
DTC114TUA
C125
25SL15M
R401
47mR
RL3720
R412
162k(0.5%)
R413
1M 0.5%(2125)
C442
47p
R421
200K 0.5%
VCHARG
R410
10 1%
V5
GND
U320
LM7301
Q337
MMBT3906
ICHARG
R535
0
D331
RLZ3.6B
C235
0.1u/25V
R420
453 1%
R411
422 1%
VAC
C440
4.7u/25V
CHG2
Q336
DTC144EUA
Q333
TM3411
Q16
TM3411
VBAT1
VBAT2
R400
100K
R407
100K
R399
33K
R408
33K
R402
0
Q331
DTC114EUA
Q332
DTA114EUA(NU)
R409
0(NU)
Q335
DTA114YUA
Q334
DTC114EUA
CHG1
CHG1
CHG2
CHG2

# PC-A150E,H,G MCU H8/3434 (REV 1.C)

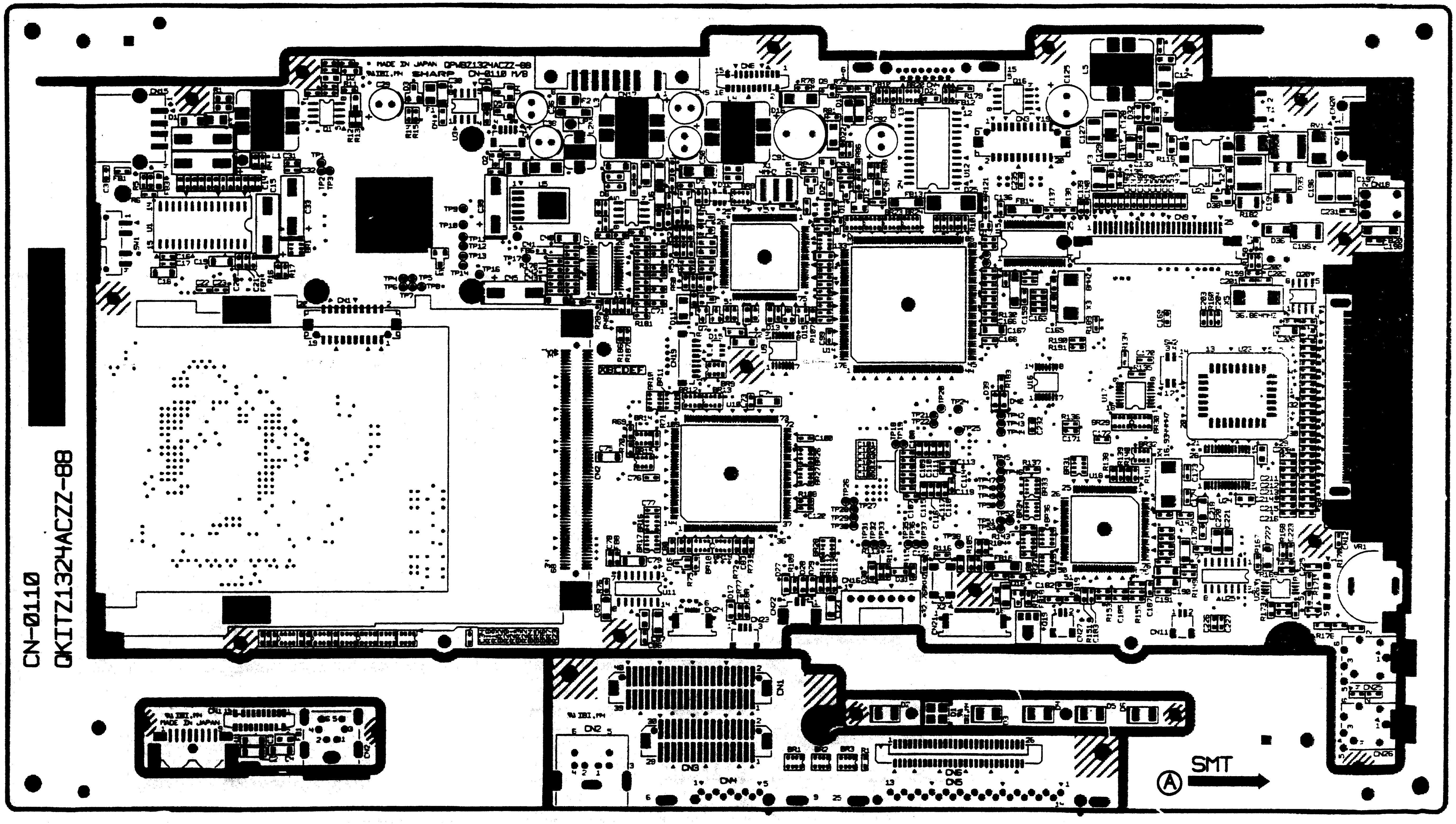

VMCU
VCHARG
R60 5.11kΩ 1%
R61 1.37kΩ 1%
R62 4.7K
C69 0.1u/50V
D317 IMN10
VTH2
R59 10K
C68 100p
VTH1
R58 10K
C67 100p
VBAT2
R55 51.1kΩ 1%
R56 13.7kΩ 1%
R57 4.7K
C66 0.1u/50V
VBAT1
R52 51.1kΩ 1%
R53 13.7kΩ 1%
R54 4.7K
C65 0.1u/50V
SYSON#
ECBLON
CHON
CHLIMIT#
CHG2
SUSREQ#
SUSB#
Q327 DTC114EUA
SMALM#
SUSC#
Q326 DTC144EUA
SUSA#
Q6 DTC144EUA
Q7 DTC144EUA
BEEP
LMON
BR329 470kX4 MNR14
ECSUSREQ#
BRT
CPU_TH
ICHARG
VREF
V18ON
V25ON
BLON
ATFIN#
VPPON
V3ON
VCCON
ACOK#
V3CK#
VCCOK#
VAC
D11 RLZ16B
Q8 DTC144EUA
R63 10K
V3SI
Q5 DTC144EUA
R569 0
R568 0(NU)
Q322 DTC114TUA
V180K
D319 1SS355
D318 1SS355
V5SUB
U317 S-81246SG-QM-X
C426 4.7u/25V
V5SI
Q4 DTC144EUA
GND
ECS2#
R373 470K
R374 470K
THON
CHG1
BR8 470kX4 MNR14
IOW#
ONSW#
D10A RB471E
D10B RB471E
WUMDM
RINGINT#
RNGCOM#
PME#
COVER_SW
LIDSW
VAC_CUT#
BAT1_FET
BAT2_FET
R380 1M
R379 15k
Q323 UMD2N
R381 1M
R382 15k
Q325 UMD2N
VREF
VTH1
VTH2
DOCK#
LOWBAT#
R66 470K
SHDN#
Q14 DTC144EUA(NU)
PWRGD
PWRGD#
Q15 DTC144EUA
BATSEL
VPPI
VPP
D336 1SS355
Q324 UMD2N
BSMBC2
BSMBD2
BSMBC1
BSMBD1
R559 0
R560 0
R561 0
R562 0
HK5
HK3
HK2
HK1
R68 470K
U8
H8/3434
R108 1k
R105 1k
R104 1k
PLED1#
PLED2#
PLED3#
PLED4#
GATEACPI#
GATEACPI
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
SD[0..7]
LID
GPI1
WUSCI#
RTSCI#
HA0
GA20
IOR#
RSMRST#
PCS1#
R564 0
MCCS#
R565 0(NU)
R366 470K
U319 TC7S32F
ECS2#
R367 470K
BR25 470kX4 MNR14
U318 TC7S32F
PCS0#
IOW#
IOR#
SA0
R566 0
SA2
R567 0(NU)
Q13 DTA144EUA
R94 470k(NU)
Q321 DTA144EUA
R95 33K
R372 33K
HSMBC
HSMBD
BR9 47kX4 MNR14
D15A RB471E
D15B RB471E
CN19
HEADER 8 BM08B-SRSS-TB
TXD1
RXD1
RES#
C72 1u/25V
C423 0.1u/50V
C421 0.1u/50V
R375 100K
R376 100K
C422 1000p
R90 1M
X1
XTAL CSTCC4.00MG0H6
R84 470k
SW301 RESET SW (SPVC21)
MCURST#
D24 1SS355
R92 1k
Q10 DTA114YUA
U13 PST596E
M/R
SUB
GND
VCC
VOUT
R91 4.7k
RES#
8
7
6
5
4
3
2
1
D
C
B
A

# PC-A150E,H,G DC/DC (REV 1.C)

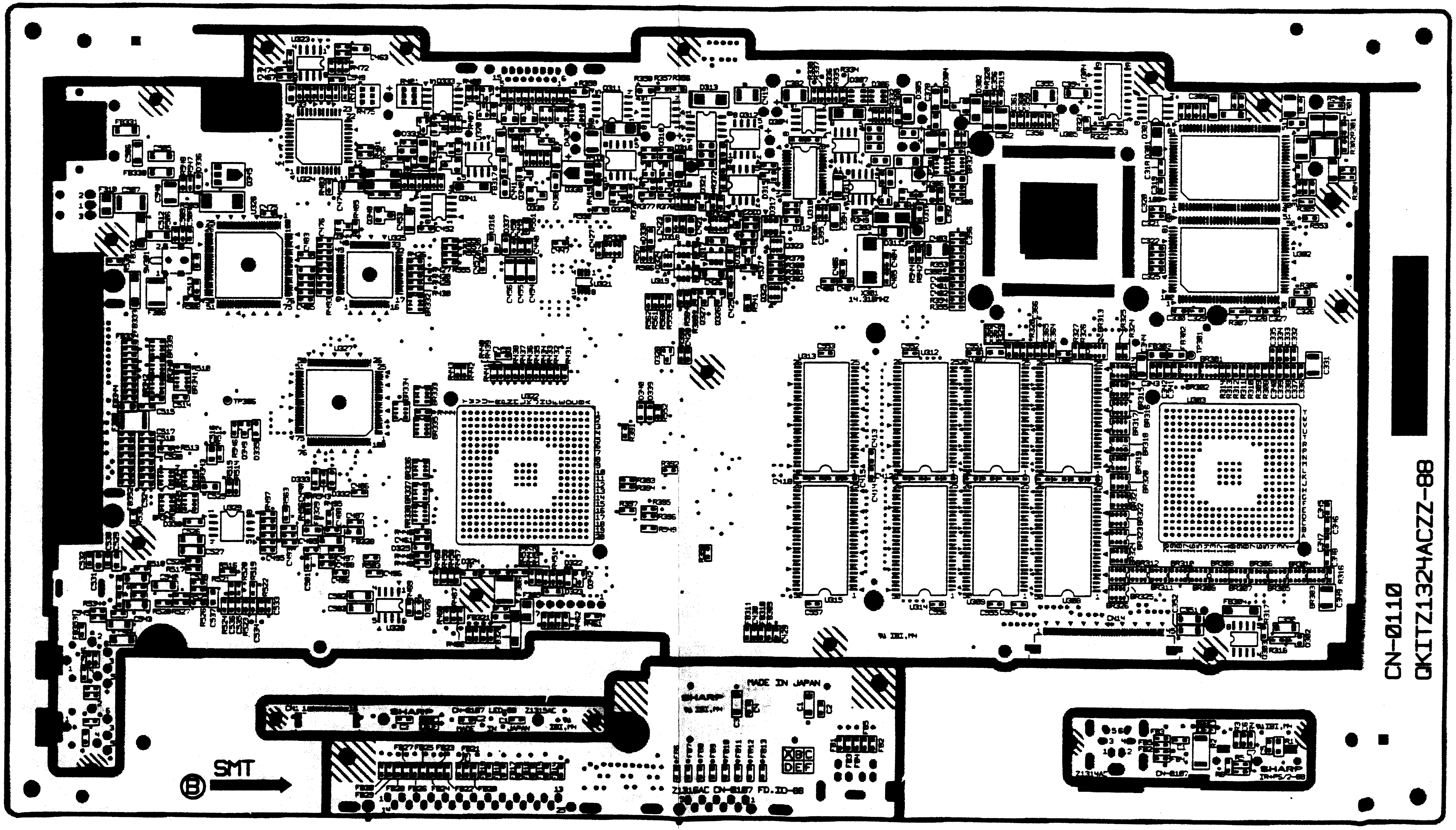

VAB
VACSUB
D3
RB411D
F1
MMCT200mA(NU)
D4
RB751V-40
C30
4.7u/35V
U3
LP2951CM
OUT
SEN
SHD
GND
IN
FB
VTAP
ER
C356
0.1u/25V
V5SUB
R320
127KD
0.5%
R319
43KD
0.5%
C363
4.7u/25V
D302
RLZ5.6B
D303
RB400D
D5
RB400D
C35
4.7u/25V(NU)
U4
XC62FP3102M
VIN
GND
OUT
C378
4.7u/25V
D304
RB751V-40
VMCU
V5
V3
V5SI
V5S
V3SI
V3S
VCCON
V3ON
U310
SB3052P
SS5
PWON5
PWON
FSYN
VREF
SGND
CMPO1
CMPO2
CMPV
CMPI2
CMPI1
PWON3
SS3
RS3
RS5
VU5
LCNX5
BOOST5
VL5
PGND
OUT5
VIN
VL3
BOOST3
LCNX3
VU3
OUT3
C56
0.01u
C53
4.7u/25V
C54
4.7u/16V
D315
DAP202U
R350
470K
R351
1M
D312
1SS355
Q3
DTC114TUA
R30
1M
C60
1u/25V
R364
1M
C55
0.01u
R29
10
C52
2200p
D8
1SS355
D7
1SS355
C391
1u/25V
C51
1u/25V
C385
2200p
R343
10
10u/25V
C362
C49
35MV33SGX
Q304
SI4410DY
Q305
SI4410DY
D306
F1AJ3
L3
10uH CDRH125
R340
33mR(NU)
RL1220
R342
33mR
RL1220
R341
33mR
RL1220
C36
6SP68M
R332
36K
R333
22K
C381
0.01u
C380
0.1u/50V
C384
1u/50V
D305
RLZ6.2B
JP2
SHORT
C419
10u/25V
C50
35MV33SGX
Q312
TM3111
Q313
TM3111
D9
F1AJ3
L4
10uH CDRH125
R361
33mR(NU)
RL1220
R362
33mR
RL1220
R363
33mR
RL1220
R365
15K
C57
0.1u/50V
C58
1u/50V
C91
6SP220M
D316
RLZ4.3B
JP303
SHORT
C420
0.01u
R360
22K
C355
10u/25V
V18ON
R537
47k
D334
1SS355
R545
1M
Q347
DTC114TUA
C547
0.1u/25V
R10
2.2M
C25
0.1u/50V
C24
0.01u
C27
0.047u
R11
15k
R8
820k
C26
220p
U304
SB3030
SS
PWRON
REF
RF
SGND
FB
R-
R+
VIN
VU
LCNX
V5
BOOST
VL
PGND
PWRGD
C353
1000p(NU)
C29
35MV33SGX
D2
1SS355
C28
0.22u/50V
C364
4.7u/35V
Q1
SI4410DY
Q301
SI4420DY
D301
F1AJ3
R9
47k
R2
33mR
RL1220
L1
10uH CDRH127
R1
33mR
RL1220
F5
MMCT3.15A
D1
RLZ3.0B
R3
20K 1%
R4
39K 1%
C2
150u/6.3V
6TPA150M
C1
150u/6.3V
6TPA150M
JP1
SHORT
VCPUCORE
GND
V18OK
V5SI
L2
33uH
CDRH64
D6
RB160L-40
F7
ICP-S0.5
JP301
SHORT
VPP
R349
10K
U311
LTC1301
GND
SEL
SHDN
SENSE
PGND
SW
VIN
IT
VPPON
Q308
DTC114EUA
C389
0.1u/50V
R346
1M
C390
0.1u/50V
C38
25SC10M
D309
RLZ16B
VPPI
V3SI
Q306
NDS356AP
R344
220k
R345
220
V25ON
Q307
DTC114EUA
D310
RB751V-40
U5
PQ2TZ15
IN
ON
GND
OUT
NC
JP302
SHORT
VCPUIO
C393
PSNB20J156M
C392
0.1u/50V
D311
RLZ3.6B(NU)
A
B
C
D
1
2
3
4
5
6
7
8

# PARTS LAYOUT

## SIDE A


CN-0110
QKITZ1324ACZZ-88
MADE IN JAPAN QPWBZ1324ACZZ-88
SHARP CN-0110 M/B
SMT
Ⓐ

**SIDE B**


CN-0110
QKITZ1324ACZZ-88
SMT
B
SHARP
MADE IN JAPAN
14.318MHz
U327
U322
U323
U312
U313
U315
U314
U303
CN-0187
Z1313AC
Z1314AC
FD.ID-88
IR-PS/2-88

# Parts list

The parts list shows parts different than those of the PC-A100E/G/H.

For other parts common to both models, refer to the parts list of the PC-A100E/G/H(code: 00ZPCA100EPGE).

## 2 Bottom cabinet etc.(Differrnce with PC-A100E/G/H)

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| 14 | CPWBZ1324ACE4 | | N | E | Mother board | (Change) |
| 29 | DUNTK4813ACZZ | CX | | E | HDD unit (4.3GB) | (Change) |
| 42 | TLABM2474ACZZ | AP | N | D | Name plate label | (Change) |
| 80 | ———————— | | | | Glide PWB spacer | (Not used) |
| 85 | PSPAZ2392ACZZ | AC | | C | HDD spacer | (Add) |

## 3 Packing material & Accessories(Differrnce with PC-A100E/G/H)

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| 3 | CLABM2320AC77 | AF | N | D | Model name label(packing case) | (Change) |
| 16 | ———————— | | | | Battery supliment | (Not used)[H] |
| | TCADZ2309ACZZ | AG | | D | Battery supliment | (Add)[G] |
| 29 | TiNSE2400ACZZ | AN | | D | Instruction book (Operation) | (Change)[E,H] |

## 4 Mother board(Differrnce with PC-A100E/G/H)

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| 22 | ———————— | | | | Fuse (2.5A) | (Del)[F5] |
| 53 | ———————— | | | | Coil (10μH/4.0A) | (Del)[L1] |
| 62 | VRS-CY1JD201F | AA | | C | Resistor (1/16W 200Ω ±1%) | (Add)[[illegible]B1,2] |
| 89 | ———————— | | | | Capacitor (25WV 0.10μF) | (Del)[C2[illegible],170] |
| | VCKYCY1EF104Z | AA | | C | Capacitor (25WV 0.10μF) | (Add)[C550,551,552,553,554,555,5[illegible],557] |
| 115 | ———————— | | | | Diode (NSQ03A04) | (Del)[D313] |
| 116 | VHDRB050L40-1 | AG | | B | Diode (RB050L-40) | (Add)[D313] |
| 118 | VHDRB400D//-1 | AC | | B | Diode (RB400D) | (Add)[D23] |
| 119 | ———————— | | | | Diode (RB411D) | (Del)[D23] |
| 138 | VHi366266LTCP | DC | | B | IC (CPU MMX-266)(366266LTCP) | (Change)[U305] |
| 161 | VHPPQ2TZ15U-1 | AK | | B | Photo coupler (PQ2TZ15U) | (Change)[U5] |
| 164 | VHiNM2160B-TQ | BZ | | B | IC (NM2160B-TQ) | (Change)[U14] |
| 175 | DUNTK4992ACZZ | | N | B | BIOS | (Change)[U23] |
| 184 | ———————— | | | | Resistor (1/16W 0Ω ±5%) | (Not used)[R1[illegible],322] |
| | VRS-CY1JD000J | AA | | C | Resistor (1/16W 0Ω ±5%) | (Add)<br>[R12,15,123,129,184,559,560,561,562,564,56[illegible],569] |
| 188 | ———————— | | | | Resistor (1/16W 1.0KΩ ±5%) | (Del)[R[illegible]0,51] |
| 190 | ———————— | | | | Resistor (1/16W 10KΩ ±5%) | (not used)[R4[illegible],130] |
| | VRS-CY1JD103J | AA | | C | Resistor (1/16W 10KΩ ±5%) | (Add)[R186,187,5[illegible]3,51] |
| 191 | ———————— | | | | Resistor (1/16W 100KΩ ±1%) | (Not used)[R348] |
| 200 | RCORF1043ACZZ | AC | | C | Core (Type140Ω 200mA)(BLM11P141S) | (Add)[R40[illegible],406] |
| 201 | ———————— | | | | Resistor (1/16W 2.0KΩ ±5%) | (Not used)[R[illegible]3,14] |
| | VRS-CY1JD202J | AA | | C | Resistor (1/16W 2.0KΩ ±5%) | (Add)[R321] |
| 211 | VRS-CY1JD272J | AA | | C | Resistor (1/16W 2.7KΩ ±5%) | (Add)[R19[illegible],191] |
| 240 | ———————— | | | | Resistor (1/16W 102kΩ ±1%) | (Not used)[R347] |
| 252 | ———————— | | | | Resistor (1/4W 33mΩ ±5%) | (Del)[R33[illegible],331] |
| 264 | ———————— | | | | Transistor (SI4410DY-T1) | (Del)[[illegible]301] |
| 304 | ———————— | | | | Insulate tube | (Not used) |
| ⚠ 308 | QFS-L9332QCZZ | AF | | A | Fuse (MMCT3.15A) | (Add)[F5] |
| 309 | VSSi4420DY/-1 | AK | | B | Transistor (SI4420DY) | (Add)[[illegible]301] |
| 310 | VRS-TS2AD000J | AA | | C | Resistor (1/10W 0Ω ±5%) | (Add)[D340,[illegible]9,44] |
| 311 | RCiLZ1014ACZZ | AK | | C | Coil (CDRH127-100) | (Add)[L1] |
| | (Unit) | | | | | |
| 901 | CPWBZ1324ACE4 | | N | E | Mother board | (Change) |

## 7 FD-I/O PWB unit(Differrnce with PC-A100E/G/H)

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| 10 | RMPTW4100QCJJ | AA | | B | Resistor arrey (10Ω×4 ±5%)(MNR14E0ABJ100) | (Add)[BR[illegible],2,3] |

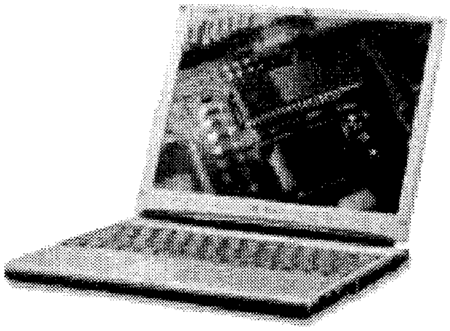
**SHARP**

**COPYRIGHT © 1998 BY SHARP CORPORATION**
All rights reserved.
Printed in Japan.
No part of this publication may be reproduced,
stored in a retrieval system, or transmitted.
In any form or by any means,
electronic, mechanical, photocopying, recording, or otherwise,
without prior written permission of the publisher.

**SHARP CORPORATION**
**Printing Reprographic Systems Grou**
**Quality & Reliability Control Center**
**Yamatokoriyama, Nara 639-1186, Jap**
1998 October Printed in U.K.

# SHARP SERVICE MANUAL

CODE: 00ZPCA100SM-E



# PERSONAL COMPUTER

## MODEL PC-A100

(OPTION) CE-CD01
CE-BL03

CONTENTS

CHAPTER 1. OUTLINE ........................................ 1-1

CHAPTER 2. SPECIFICATIONS ............................ 2-1

CHAPTER 3. DISASSEMBLY AND REASSEMBLY ............... 3-1

CHAPTER 4. PRECAUTIONS ................................ 4-1

CHAPTER 5. RE-INSTALLATION ............................ 5-1

CHAPTER 6. BLOCK DIAGRAM ............................. 6-1

CHAPTER 7. CIRCUIT DIAGRAM ............................ 7-1

Parts marked with "⚠" is important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

This document has been published to be used
for after sales service only.
The contents are subject to change without notice

## Caution about Battery

**Caution:** Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

**Attention:** Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type recommandé par le constructeur. Mettre au rébut les batteries usagées conformément aux instructions du fabricant.

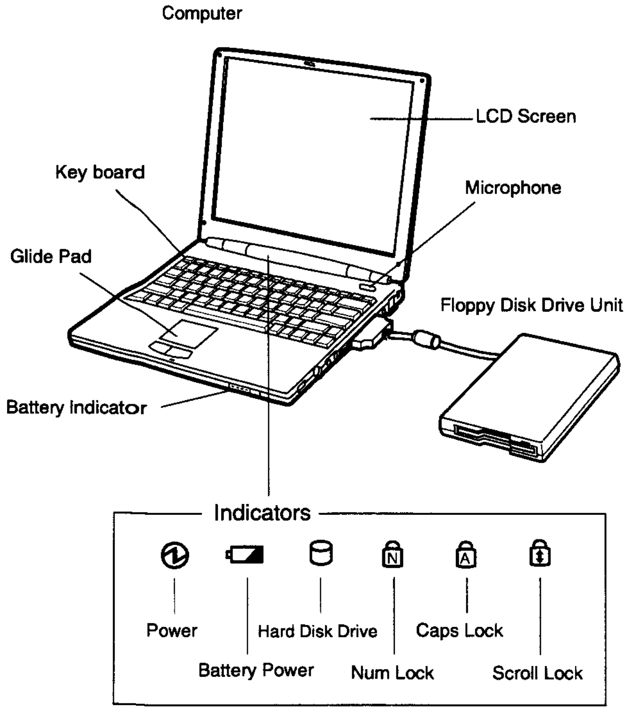
# CHAPTER 1. OUTLINE

## 1. System Overview

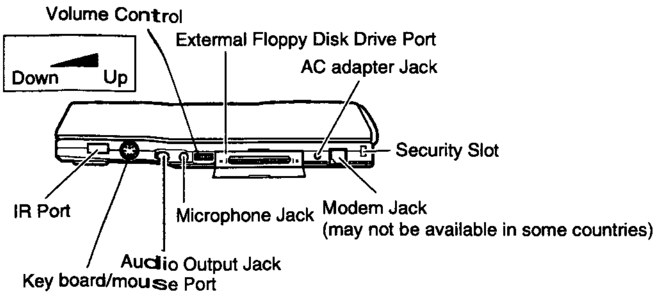
The PC-A100 is a B/5-size subnotebook computer with a Tillamook 233-MHz MMX Pentium processor, 64 MB of memory as standard equipment. Compact in size, yet it has a wide viewable area by using a 11.3-inch SVGA (800 × 600) active-matrix display. Its 17-mm pitch, 2.5-mm stroke keyboard allows easy key operations. With an expansion battery pack installed, the machine operates for up to 8.5 hours continuously.

## 2. Overview of Computer

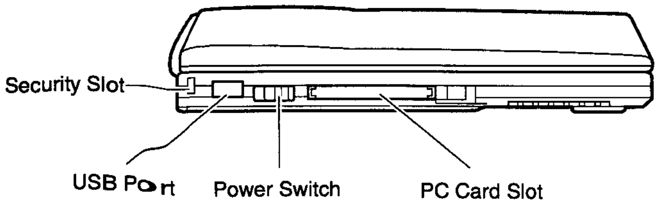
### Front


Computer
LCD Screen
Key board
Microphone
Glide Pad
Floppy Disk Drive Unit
Battery Indicator
Indicators
Power
Battery Power
Hard Disk Drive
Num Lock
Caps Lock
Scroll Lock

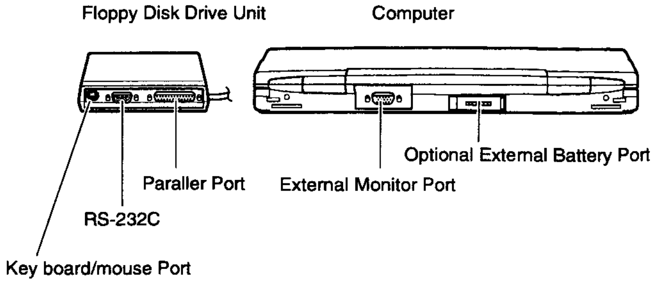
### Right


Volume Control
Down
Up
External Floppy Disk Drive Port
AC adapter Jack
Security Slot
IR Port
Microphone Jack
Modem Jack
(may not be available in some countries)
Audio Output Jack
Key board/mouse Port

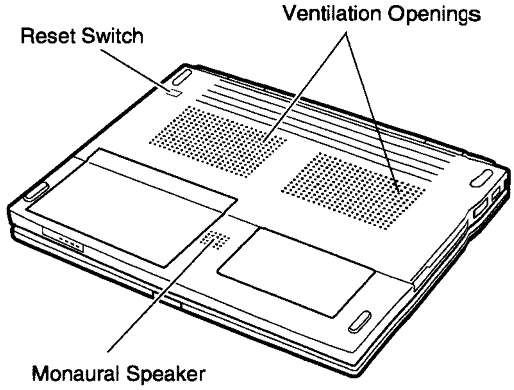
### Left


Security Slot
USB Port
Power Switch
PC Card Slot

### Rear


Floppy Disk Drive Unit
Computer
Optional External Battery Port
Paraller Port
External Monitor Port
RS-232C
Key board/mouse Port

### Bottom


Reset Switch
Ventilation Openings
Monaural Speaker

## 3. Basic Operations

This chapter describes the basic operations of your computer.

### Choosing Power Source

You can use the computer with one of the following power sources:

- AC power from a wall outlet
  Use AC power whenever possible; rely on the battery only when AC power is not available.
- Rechargeable battery
  There is an internal standard battery in the computer. You can use an optional external battery pack adding to the standard battery.

**About the Power Indicators**

The following indicators show the power status of your computer.

| Indicator | Light | Meaning |
|---|---|---|
| Battery Power | On (green) | Fully charged |
| | On (orange) | Being charged |
| | Blinking (orange) | In abnormal state |
| | On and blinking (red) | Almost completely discharged. The warning beep sounds. |
| Power | On (green) | Operating |
| | Blinking (green) | Suspended to RAM |
| | Off | Suspended to Disk or powered off |

## Using the AC Adapter

When connected to a wall outlet, the AC adapter provides power for operation and charges the battery. The AC input voltage can range from 100 to 240 volts so that you can use the computer with the appropriate plug adapter.

The AC power cord included with the computer is appropriate for the voltage used in the area in which you purchased your computer. If you attempt to connect the computer to a wall outlet other than in this area, check the voltage of the outlet and use an AC power cord appropriate for the outlet. Consult local service staff if you are unsure.

## Resetting the System

You may need to reset the system after adding hardware or software so that your computer will recognize the newly installed devices or software. When the message appears after the installation, click OK, Yes, etc. to restart Windows 98.
You can also restart Windows 98 from the Start menu. Select Shut down; then, Restart.

### Warm Boot

If the system is locked up because of a software problem, you can reset or reboot the system by pressing the Ctrl+Alt+Del keys simultaneously. Press the Ctrl+Alt+Del keys again to restart the computer.

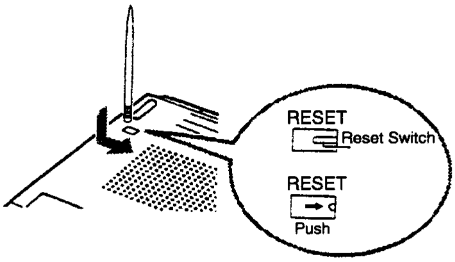
Resetting may cause data loss. Use the software reset only if the normal Windows 98 Shut Down does not work because of software malfunction.
Although resetting will not damage the system, you may lose the data you are processing.

### Power Switch

You can turn off the computer with the power switch if you encounter hardware or software problems which lock up the system. In this case, slide and hold the switch for more than five seconds.

### Reset Switch

If you cannot turn off the computer by sliding the power switch, you can use the reset switch on the bottom of your computer. To reset the system, insert a narrow object into the small hole to slide the switch as shown.



Do not use metallic materials to slide the reset switch. It may cause malfunction.

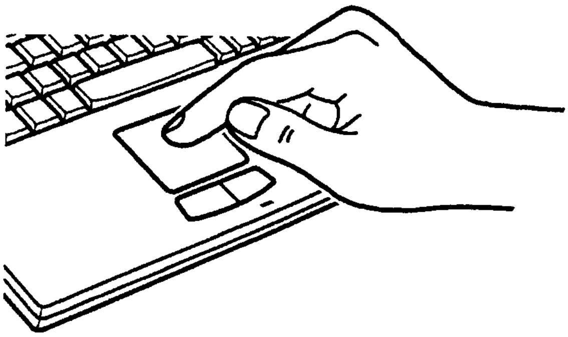
## Using The Glide Pad

Your computer is equipped with an integrated pointing device called a glide pad. Using the glide pad, you can move the pointer, select an item from a menu, and perform other tasks in the same way you would with a mouse.

- Do not hit or scratch the surface of the glide pad with pointed objects (such as a ballpoint pen).
- Do not operate the glide pad with a moist finger. This may cause the glide pad to operate incorrectly.
- You cannot use the glide pad when a mouse is connected.

## Using the Glide Pad

Take a moment to become familiar with how the glide pad works.



**Place Your Fingertip**

Place your left or right hand next to the glide pad, resting your wrist naturally in a relaxed manner. Place your thumb or finger on the glide pad.

**Move Your Fingertip**

The rectangular pad of the glide pad acts like a miniature duplicate of the display. As you slide your fingertip across the pad, the pointer on the screen moves in the same direction across the screen. The glide pad is very sensitive, so you do not have to exert a lot of pressure on the pad. The glide pad will respond to a light touch from your fingertip.

**Click, Double-click, and Right-click**

To click or double-click, you can use the left button just like that of a mouse. Instead of clicking by pressing the left button, you can just tap gently anywhere on the rectangular pad. For right-clicking, you can use the right button.

**Drag and Drop**

You can move icons or windows by using "drag and drop" below:

1. Position the pointer over the object.
2. Press the left button; do not release it.
3. Holding down the button, move the pointer. The object moves together with the pointer.
4. Release the button when the object reaches its destination.

### Changing the Configuration

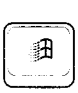
In the Mouse Properties dialog box, you can change the configuration of the glide pad, such as swapping left and right buttons, changing the pointer size, etc.

- If you swap the left and right buttons, "tapping" on the glide pad as an alternative method of pressing the left button will no longer function.
- If you prefer to use a mouse and turn off the glide pad, you can disable the glide pad in the Setup Utility.

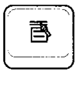
## Using The Keyboard

Your computer, equipped with the Windows Enhanced Keyboard, provides all the functionality of a full-sized desktop keyboard.

**Windows Logo Keys**



Opens the Windows Start menu.



Opens an application-specific short-cut menu equivalent to right-clicking.

### System Function Keys

When pressed together with the Fn key, function keys set specific system parameters. This combination is sometimes referred to as "hot keys".

| | |
|---|---|
| Fn F5 | Switches the display output between the LCD screen and external monitor (if connected). See the Display section in Chapter 4 for details. |
| Fn F6 | Decreases the LCD screen brightness. |
| Fn F7 | Increases the LCD screen brightness. |
| Fn F11 | Turns the screen backlight on and off. |
| Fn F12 | Puts the computer in suspend mode (to RAM or to Disk, according to the setup selection). |

## Using External Floppy Disk Drive Unit

You can use double-density (2DD) 720KB or high-density (2HD) 1.44MB floppy disks with the external floppy disk drive unit.

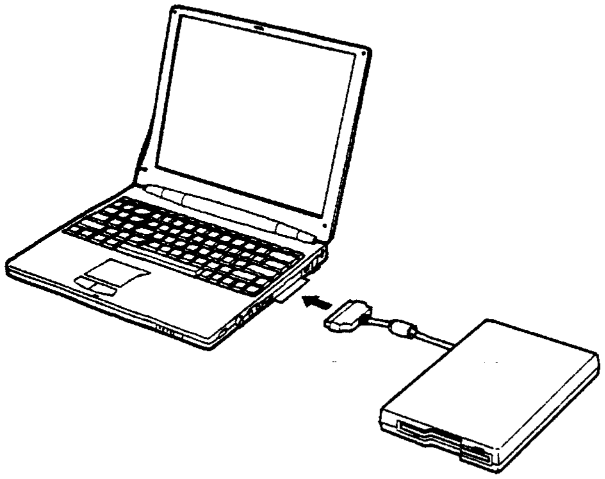
The keyboard/mouse port, RS-232C serial port and parallel port are available on the rear side of the floppy disk drive unit. You can connect peripherals to the floppy disk drive unit.

### Connecting External Floppy Disk Drive Unit

✓ Turn off the computer before connecting the external floppy disk drive unit; otherwise the floppy disk drive unit may not be recognized.

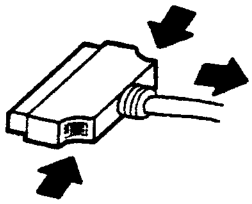
⚠
- Do not place the floppy disk drive unit on its side or upside down.
- Do not press on the floppy disk drive unit. It may damage the drive or cause malfunction.
- Do not place the AC adapter on the floppy disk drive. It may cause the drive to malfunction.

1. Turn off the computer.
2. Open the cover of the external floppy disk drive port on the right side of the computer.
3. Connect the connector of the floppy disk drive unit to the floppy disk drive port.



### Removing External Floppy Disk Drive Unit

1. Remove the floppy disk from the floppy disk drive.
2. Turn off the computer.
3. Disconnect the floppy disk drive unit by simultaneously pressing the buttons on each side of the connector and pulling it out.
4. Close the cover of the floppy disk drive port.



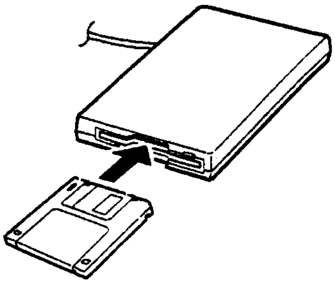
### Handling Floppy Disks

- Do not open the shutter and touch the disk inside; otherwise, you will not be able to read or write data to the disk.
- Do not place floppy disks near magnets or heat source, in direct sunlight or in a dusty place, etc.
- Never subject a disk to sudden shocks or extreme vibration. Do not drop, bend, or place heavy objects on a disk.
- Do not spill liquid onto a disk.

### Inserting and Removing a Floppy Disk

**Inserting**

Hold the floppy disk with the arrow facing up and towards the drive. Slide the disk into the drive until it locks into place.

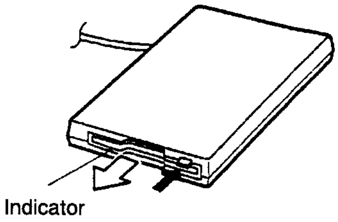


⚠
- Always insert a floppy disk straight into the computer.
- When inserting the disk, make sure it is not upside down.
- Do not use excessive force when inserting the floppy disk. If you have difficulty inserting or removing disks, seek the assistance of an authorized service technician.

**Removing**

⚠ Before removing the floppy disk, make sure the indicator of the floppy disk drive unit is not lit.

Press the eject button firmly. The disk will pop out slightly. Remove it and store it properly.



### Formatting a Floppy Disk

1. Make sure the floppy disk is not write-protected, and insert it into the floppy disk drive.
2. Double-click My Computer on the desktop.
3. Click 3 ½ Floppy [A:]. From the File menu, select Format.
4. From the capacity drop-down list, select 1.44MB or 720KB.
5. Click Start to start formatting.

When you format a floppy disk, all data previously stored on the disk is lost.

### Backing Up Data

We recommend that you regularly backup the data on your hard disk drive. Windows 98 has a backup function you can use to back up your data. See Windows 98 Help for details.

# 4. Battery and Power Management

This chapter explains how to manage the computer's power effectively and use the standard battery or an optional battery pack.

## Standard Battery Pack

When not connected to an external power source, your computer operates with the rechargeable internal standard battery pack. The duration of the battery life may be longer if the computer's Power Management is active. See the next section for power management.

To keep the battery life long:

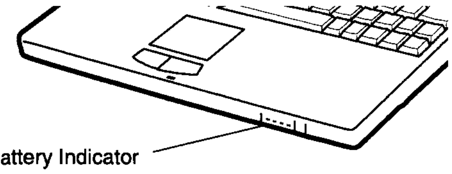
- Initialize the battery pack if the actual remaining power in your battery is less than what the battery indicator lights suggests.
- Turn off your computer when you are not using it.

- The duration a battery charge will last will depend on the computer usage. Applications which heavily use the peripherals, like the external floppy disk drive unit or the optional external CD-ROM drive, will experience shorter power duration.
- When the battery is not charged, your computer may not operate properly. Connect the AC power to charge the battery.
- If you see an error message during booting, press F2 to open the Setup Utility. Adjust the Setup Utility and restart the system.
- When using the computer for several hours with battery packs, enable power management and set the suspend-to-disk mode.

### Checking the Battery Level

You can check the battery level in the Power Management properties dialog box in the Control Panel or double-clicking the battery or AC plug icon on the taskbar.

You can also check with the battery indicator on the front side of the computer.



Press the button on the right of the battery indicator to show the battery power remaining. Refer to the table below.

| Battery Indicator Staus | Capacity Remaining |
|---|---|
| ●●●● (All on) | 76%-100% |
| ●●●▬ (Three on) | 51%-75% |
| ●●▬▬ (Two on) | 26%-50% |
| ●▬▬▬ (One on) | 1%-25% |
| ▬▬▬▬ (All off) | 0%(Empty) |

This battery indicator turns on automatically while the battery is being charged (when connected to AC power). When the battery is fully charged, the battery indicator turns off.

The battery power remaining is an approximate figure. The remaining operating time expected may be different from the actual remaining time, depending on the use of the computer. If the actual remaining power in your battery is less than what the battery indicator lights suggest, you should initialize the battery pack.

### Low Battery Indication

When the battery power becomes significantly low, the battery power indicator ( 🔋 ) turns red and the warning beep sounds. Save your data and turn off the computer, or connect the computer to a wall outlet immediately. If you set Critical Battery Suspend to Enabled in the Power menu of the Setup Utility, the computer will be suspended to disk in case of significantly low battery power. When your computer suspends, do not turn on the computer before connecting to a wall outlet or connecting a fully charged optional external battery pack.

In Windows 98, you can set the alarm to inform you of the remaining battery level. In Power Management properties dialog box, select Alarms tab and set Low battery alarm and Critical battery alarm.

The remaining operating time depends on the power you are consuming. If you are using the audio system, PC card slot, hard disk drive or external floppy disk drive unit, your computer may consume more battery life.

See also the section on power management in this chapter.

### Charging the Battery Pack

1. Connect the AC adapter to the computer. While the battery is being charged, the battery power indicator is orange and the battery indicator turns on.
2. When the battery is fully charged, the battery power indicator turns green and the battery indicator turns off. Charging time may vary according to the status of the computer.

When the battery is hot (for example, after long use), it may take longer to fully charge the battery.

### Initializing the Battery Pack

You need to initialize the battery pack when the actual remaining power in your battery is less than what the battery indicator lights suggest.

1. Connect the computer to AC power and wait until the battery is fully charged. The battery power indicator turns green and the battery indicator turns off. It will take about 2 hours and 30 minutes if the battery is completed discharged.
2. Turn on the computer.
3. When the message Press <F2> to enter Setup Utility appears, press F2 to open the Setup Utility.
4. Disable the power management and set Critical Battery Suspend to Disabled in the Power menu of the Setup Utility. See Disabling Power Management in this chapter and Power menu.
5. Press Esc; then Enter twice. The system restarts.
6. When the message Press <F2> to enter Setup Utility appears, press F2 to open the Setup Utility. Leave the computer in the Setup Utility.
7. Disconnect the AC adapter, and leave the computer until the battery is completely discharged and the system shuts down automatically. It will take about 3 hours.
8. Connect the computer to the AC adapter and let the battery fully charge.

- Do not connect the computer to wall outlet while discharging the battery. The initialization will be cancelled.
- You can initialize the standard battery alone only if the optional external battery pack is disconnected. When the external battery pack is connected, both the standard and the external battery will be initialized together.

### Changing the Battery Pack

The capacity of a battery pack gradually decreases when used repeatedly (the deterioration rate depends on the operating temperature and environment). If the battery life becomes extremely short even after the initialization, you should change the standard battery pack.

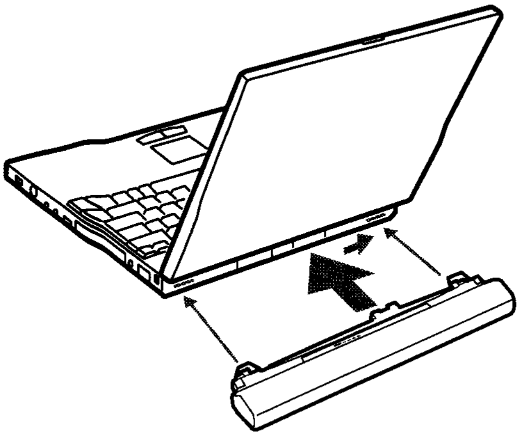
## Optional External Battery Pack

You can use an optional external battery pack to power your computer for longer periods of time.

Use only the appropriate optional external battery pack (CE-BL03), and attach it correctly.

### Connecting External Battery Pack

1. Slide the cover of the external battery port to locate the port.



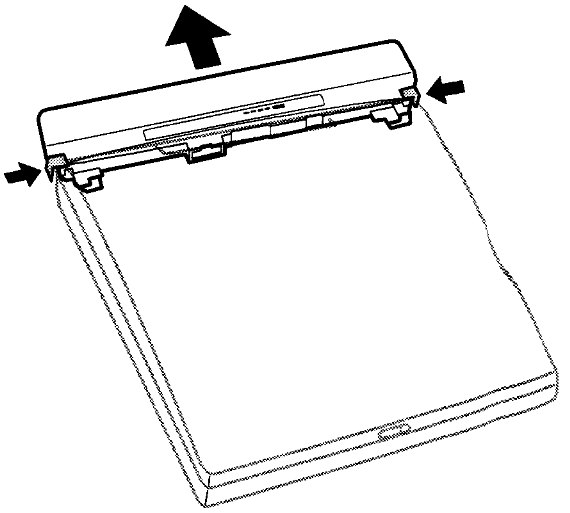
2. Connect the optional battery by matching the projections on either of the battery side to the notched parts of the computer. Make sure that the battery connector lines up with the external battery port of the computer. If you hear the clicking sound, the external battery pack is correctly connected.

- While the external battery pack is connected, do not carry the computer by holding the computer only. Firmly hold both the computer and the external battery pack.
- You cannot connect an external monitor when the external battery pack is connected.

### Removing External Battery Pack

Before removing the external battery pack, turn off the computer or confirm that the standard battery pack has power remaining. If the standard battery pack has no power remaining, connect the computer to AC power; otherwise the computer will be shut down and data may be lost.

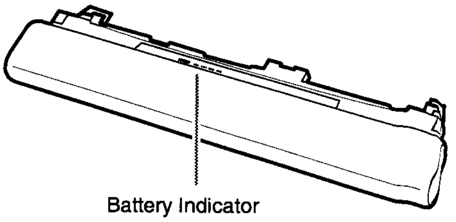
Remove the optional battery by pressing the buttons on each end of the battery and sliding the battery off the computer.



Close the cover of the external battery port after the external battery pack is removed.

### Checking the Battery Level

You can check the battery level of the external battery pack (in the same way as the standard battery pack) with the battery indicator. Press the button on the right of the indicator. The status of the indicator is the same as that of the standard battery.



### Charging External Battery Pack

You can charge the external battery pack by connecting AC power to the computer with the external battery connected.

To charge most effectively, the standard and external battery pack will be charged as follows:

1. Charge standard battery pack to 80%.
2. Charge external battery pack to 80%.
3. Charge standard battery pack remaining 20%.
4. Charge external battery pack remaining 20%.

When the computer is turned off or in the suspend-to-disk mode, it will take about 5 hours and 30 minutes to charge both the standard and external battery packs from empty to full. When the computer is turned on, it will take about 7 hours and 30 minutes. (The charging time depends on the power you are consuming.)

### Initializing External Battery Pack

The procedure for initializing an external battery pack is the same as that of the standard battery. But, you cannot initialize the external battery pack only. If you begin the initializing process, both standard and external battery packs will be initialized.

## Power Management

Power management saves electricity and extends battery life by controlling power supply to built-in devices. You can set the power management properties in the Setup Utility or in Windows 98. Your computer is controlled by the power management settings in which the time set is shorter.

Note that the power management may not seem to function in the following conditions:
- When you are using an application program that accesses the hard disk periodically
- When the IR monitor is available
- When Windows CD Auto Play is functioning

### Stopping Power Supply to the Hard Disk

**Setting in Windows 98**

1. In the Power Management Properties dialog box, select Power Schemes tab.
2. Set Turn off hard disks to an appropriate value, and click OK.

**Setting in the Setup Utility**

In the Power menu, set Power Management Function to Enabled and set Hard Disk Power Down after to an appropriate value.

### Stopping Power Supply to the Display

This procedure is also effective for an attached external monitor complying with power management.

**Setting in Windows 98**

1. In the Power Management Properties dialog box, select Power Schemes tab.
2. Set Turn off monitor to an appropriate value, and click OK.

**Setting in the Setup Utility**

In the Power menu, set Power Management Function to Enabled and set Video Power Down after to an appropriate value.

### Suspend Modes

The power management contains two types of suspend modes: suspend-to-RAM mode and suspend-to-disk mode. In the Setup Utility, you can define which suspend mode the system enters in what conditions.

- Suspend-to-RAM mode stores the current condition of the computer in RAM and stops power supply to all but a few essential components. Your system enters and resumes from the suspend-to-RAM mode per the conditions mentioned below. In the suspend-to-RAM mode, the Power indicator blinks green.
- Suspend-to-disk mode saves the current condition of the computer in an area of the hard disk, which is called "suspend-to-disk partition," and turns off the computer. Your system enters and resumes from the suspend-to-disk mode per the conditions mentioned below. In the suspend-to-disk mode, the Power indicator turns off.

**Before suspending the system**

Finish communications, printing, and playing music or video.

**Entering the Suspend modes**

Your computer enters a suspend mode in each of the following cases. You can select the suspend mode that the system will enter in Suspend Mode in the Power menu of the Setup Utility.

- You slide the power switch when the item Power Switch Function is set to Suspend/Resume in the Setup Utility.
- You press Fn+F12.
- The specified time in System Standby of Power Management Properties dialog box has passed without any operation.
- You select Standby in the Shut Down Windows dialog box.

You can select the suspend mode that the system will enter in Cover Close in the Power menu of the Setup Utility.

- The screen cover is closed.

The following case functions if Critical Battery Suspend is set to Enabled in the Power menu of the Setup Utility.

- The battery level is low (always suspended to disk).

**Resuming from Suspend-to-RAM mode**

Your computer resumes from the suspend-to-RAM mode in each of the following cases:

- You press any key.
- The screen cover is opened.
- The built-in modem receives a call if Resume On Modem Ring in the Power menu of the Setup Utility is set to Enabled (the built-in modem may not be available in some countries).
- You slide the power switch when the item Power Switch Function is set as Suspend/Resume in the Setup Utility.

**Resuming from Suspend-to-Disk mode**

Your computer resumes from the suspend-to-disk mode by sliding the power switch. The system restores the exact state as it was when entering the suspend mode. If the computer enters the suspend mode due to low battery power, however, you have to connect the computer to AC power first. Suspend to Disk is useful when you want to turn off the computer and reopen the same windows after turning it on.

- If your battery becomes completely discharged during Suspend to RAM, you will lose unsaved data and will need to reboot your computer. Therefore, if you are planning to leave your computer suspended for long periods of time, we recommend Suspend to Disk.
- When the system enters or resumes from the suspend-to-disk mode, you can see some flicker on the display. This is not a malfunction.
- If sufficient battery power does not remain, your computer will not resume from the suspend-to-disk mode. To resume it from the suspend- to-disk mode, connect the computer to AC power.
- If a PC card does not work properly after your computer resumes from the Suspend to Disk, restart the computer.

When entering or resuming from a suspend mode, be sure to observe the following precautions. Otherwise, the computer may not operate correctly after it has resumed from the suspend mode.

- Do not turn off the computer when the system is suspended to RAM. The RAM contents will be lost.
- Do not operate the keyboard, glide pad or mouse while the system is entering or resuming from a suspend mode.

### Disabling Power Management

**In Windows 98**

1. In the Power Management Properties dialog box, select Power Schemes tab.
2. Set System Standby, Turn off monitor and Turn off harddisks to Never, and click OK.

**In the Setup Utility**

1. In the Power menu, set Power Management Function to Enabled.
2. Set Hard Disk Power Down after, Video Power Down after and Auto Suspend to Disabled.
3. Set Power Management Function to Disabled.

When you are using communication software or if sound or voice pauses or skips while played back, disable power management.

## 5. Setup Utility

This chapter describes how to run the Setup Utility to change settings on your computer.

### Running the Setup Utility

With the Setup Utility, you can customize the system configuration information, such as time and date, port assignments, passwords, or power management settings. The information you have specified is saved in a special area called CMOS RAM, which the system reads every time you turn on the computer.

### Contents of the Setup Utility

The Setup Utility consists of five menu pages, as follows:

- Main: Basic system configuration
- Advanced: Device interface configuration (I/O ports, sound settings)
- Security: Password settings
- Power: Power management (battery saving settings)
- Exit: Exit the Setup Utility or return to the default values

### Entering and Exiting the Setup Utility

1. Turn on the computer.
2. When Press <F2> to enter SETUP appears, press F2.
3. Change the desired settings.
4. Press Esc to select the Exit menu.
5. Select one of the exit methods, and press Enter.
6. When the message Setup Confirmation appears, press Enter again. The system restarts.

To turn off the computer when the Setup Utility is open, slide the power switch.

### Using the Setup Utility

To navigate through the different menus, you can use the following keys:

| | |
|---|---|
| ← → | Moves the cursor from one menu to another. |
| ↑ ↓ | Moves the cursor from one item to another in a menu. |
| Space bar | Increases the numeric value or changes an item to the next value. |
| - | Decreases the numeric value or changes an item to the previous value. |
| Esc | Enters the Exit menu. When a sub-menu is open, this key closes the sub-menu. |
| F9 | Replaces the settings on the current menu with their default values (date and time are not changed). |
| F10 | Restores all the values you previously saved (date and time are not changed). |
| F1 | Displays online help for the Setup Utility. |
| ↵ Enter | Displays sub-menu. Items with ▶ marks contain sub-menus. |

## Main menu

**System Time** Defines the system time, using the format hour:minute:second (24- hour format). The Tab key moves the cursor, and the space bar and the "-" key change numerals.

**System Date** Defines the system date. The Tab key moves the cursor, and the space bar and the "-" key change numerals.

**Diskette A** Defines whether to use the floppy disk. To use it, set this item to 1.44MB,3½".

**Hard Disk Type** Specifies the hard disk type. Set to Auto during normal use.

**Boot Sequence** Specifies the sequence in which the boot program looks for operating system files.

**Internal Numlock** Defines whether you can input numerals through keys with blue legends on the built-in keyboard when you connect an external keyboard and lock its numeral keys.

**Memory Cache** Enables or disables the memory cache function that accelerates the access speed to data previously accessed.

**QuickBoot Mode** Enables or disables the quick boot function. When this item is enabled, the system skips certain tests while booting.

**System Memory** shows the size of conventional memory for starting MS-DOS. It always shows 640 KB.

**Extended Memory** Shows the size of extended memory with 1MB or larger.

## Advanced menu

**Serial Port** Sets the RS-232C serial port, selecting the base I/O address. Enabled means that you can select the item yourself. Auto means that the item is automatically assigned. Disabled means that you cannot use the port.

**IR Port** Sets the infrared port, selecting the mode, the I/O channel, the IRQ channel, and the DMA channel. Enabled means that you can select the items yourself. Auto means that all the items except the mode are automatically assigned. Disabled means that you cannot use the port. Set to Auto during normal use.

**Mode** Specifies the IR mode: IrDA or ASK. Set to IrDA during normal use.

**LPT Port** Sets the printer port, selecting the mode and the base I/O address. Enabled means that you can select the items yourself. Auto means that the base I/O address is automatically assigned. Disabled means that you cannot use the port.

**Mode** Specifies the LPT port mode: Bi-directional, Output Only, EPP (Enhanced Parallel Port mode) or ECP (Extended Capabilities Port mode).

**Modem** Sets the built-in modem, selecting the IRQ channel and the I/O channel. Enabled means that you can select the items yourself. Auto means that the items are automatically assigned.

**Sound** Sets the built-in sound controller. MIDI and Joystick do not work in your computer even if set to Enabled or Auto.

**Internal Pointing Device** Enables or disables the glide pad.

**Resolution Expansion** Defines whether the screen is expanded when the resolution is 640x480. Enabled means that the screen is expanded.

**USB Port** Enables or disables the USB port. Always set to Enabled; otherwise, some PC cards may malfunction.

**Plug & Play O/S** Defines whether the operating system supports the plug & play function. Set to Yes during normal use.

**Large Disk Access Mode** Selects the operating system. Set to DOS during normal use. If you use another operating system such as UNIX, select Other.

## Security menu

- See the previous chapter about setting passwords.
- In some password settings, you cannot select some items.

**Set Supervisor Password** Defines the supervisor password up to eight characters.

**Set User Password** Defines the user password up to eight characters. You cannot set the user password unless you have set the supervisor password.

If you lose your password, you will be unable to access the computer or change the configuration. Make sure to select a password you will never forget, or write it down and protect it in a secure place. Otherwise, you will have to contact your dealer for assistance.

**Password on boot** Defines whether the system requires passwords during the boot process. Enabled means that you need to input a password to continue.

**Power Management Security** Defines whether the system requires a password when it resumes from the suspend-to-disk mode. Enabled means that you need to input a password to continue.

**Diskette access** Specifies who can access the floppy disk drive.

**Fixed disk boot sector** Defines whether the boot sector of the hard disk is write- protected. When formatting the hard disk or when reinstalling software, set it to Normal.

## Passwords

Setting a password will help protect against unauthorized access to your computer. When a password is set and the computer is turned on or resumes from the suspend- to-disk mode, the system will require a password.

If you lose your password, you will be unable to access the computer or change the configuration. Make sure you select a password you will never forget, and write it down and save it in a secure place. Otherwise, you will have to contact your dealer for assistance.

If you enter a wrong password three times, the message System Disabled appears. Slide the power switch to turn off the computer, turn it on again, and enter the correct password.

### Supervisor Password and User Password

Two types of passwords limit the access at different levels. To set the user password, you always have to set the supervisor password. When you set the two passwords, a person who knows only the user password has the limitations below:

**When setting items in the Setup Utility**

The person who does not know the supervisor password cannot set:

- Set Supervisor Password
- Password on boot
- Power Management Security
- Diskette access
- Fixed disk boot sector

**When the system starts or resumes from the suspend-to-disk mode**

If you have enabled Password on boot in the Security menu of the Setup Utility, the system requires a password when you turn on the computer. If you have enabled Power Management Security in the Power menu of the Setup Utility, the system requires a password when the system resumes from the suspend-to-disk mode.

The person who does not know the supervisor password cannot read/write a floppy disk when the item of Diskette access is defined as Supervisor in the Security menu of the Setup Utility.

### Setting the Password

1. In the Security menu of the Setup Utility, select Set Supervisor Password or Set User Password and press Enter.
2. Type your password up to eight characters, and press Enter.
3. Type the same password again, and press Enter.
4. When the confirmation message appears, press Enter.
5. Press Esc and select Exit Saving Changes.
6. Press Enter twice. The system restarts and asks the password you have set.

**If you use the computer personally**

We recommend that you set the supervisor password. You can prevent other people from using your computer by enabling Password on boot in the Security menu of the Setup Utility.

**If you share the computer with others**

We recommend that a person who administers the computer sets both supervisor and user passwords and lets the other people know only the user password.

### Deleting the Password

1. In the Security menu of the Setup Utility, select the password item you want to delete and press Enter.
2. Type your current password, and press Enter.
3. Without typing any characters, press Enter.
4. Press Enter again.
5. When the confirmation message appears, press Enter.
6. Press Esc and select Exit Saving Changes.
7. Press Enter twice. The system restarts.

### Preventing Infection of Computer Viruses

You can protect against some viruses by limiting writing to the hard disk. To limit writing to the hard disk, set the item Fixed disk boot sector to Write Protect in the Security menu of the Setup Utility.

- You cannot prevent infection of all types of viruses with the above operation.
- Even if a warning message appears, the system may not be infected in some cases.

## Power menu

**Power Switch Function** Defines the function of the power switch. If you select On/Off , the switch works only to turn on/off the computer. If you select Suspend/Resume, the system enters the mode that is specified in the item Suspend Mode when you slide the power switch. To resume the system, slide the power switch again.

**Cover Close** Specifies the mode the system enters when the screen cover is closed.

**Power Management Function** Enables or disables the items below: Hard Disk Power Down after, Video Power Down after, and Auto Suspend.

**Hard Disk Power Down after** Defines the duration of non-access to the hard disk after which the power supply for the hard disk stops automatically.

**Video Power Down after** Defines the duration of non-access to the screen after which the power supply for the screen stops automatically.

**Suspend Mode** Defines which mode the system enters when the system is suspended.

**Auto Suspend** Defines whether the system enters a suspend mode when you do not operate the computer for the specified length of time. This item does not function under Windows 98.

**Critical Battery Suspend** Defines whether the system enters the suspend-to-disk mode when the battery power becomes low.

**Auto Backlight Control** Enables or disables the self-adjustment of the display backlight. When this item is enabled, for example, backlight brightness is reduced when the system operates on battery power.

**Resume On Modem Ring** Defines whether the system resumes from the suspend- to-RAM mode when the modem receives a call.

Modem may not be available in some countries.

**PCMCIA Power when Suspend RAM** Defines whether the system supplies power to the PC card slot when suspended to RAM.

**Battery Level** Shows the amount of battery power remaining. Battery 1 refers to the standard battery; Battery 2 refers to the optional external battery pack.

## Exit menu

**Exit Saving Changes** Saves the settings you have changed and exits the Setup Utility.

**Exit Discarding Changes** Exits the Setup Utility without saving the settings you have changed.

**Load Setup Defaults** Returns the values of all items to default. To exit, select one of the above items.

**Discard Changes** Returns the values of all items to the values you last saved.

**Save Changes** Saves the settings you have changed.

# CHAPTER 2. SPECIFICATIONS

## 1. Specifications

| Parts | | Specifications |
|---|---|---|
| CPU | | 233MHz MMX technology Pentium Processor using Intel's Mobile Module (frequency differs by configuration) |
| Secondary cache | | Synchronous, PipeLine Burst SRAM (256KB) |
| ROM | | Including system BIOS and VGA BIOS |
| RAM | System | EDO 64MB |
| | Video | 1.1MB |
| Display | Panel | Active Matrix (TFT) color LCD |
| | Video controller | Neo Magic (with Graphics Accelerator) |
| Keyboard | | IBM compatible keyboard |
| Pointing device | | Glide pad (touch-sensitive control pad with 2 buttons) |
| Drive | Hard disk | IDE interface |
| | Floppy disk (external) | 3.5", 1.44MB/720KB |
| PC card slot | | Type II × 1 (PCMCIA 2.1 compliant) CardBus compliant |
| Audio system | | Microphone, monaural speaker, sound system compliant with Sound Blaster Pro |
| I/O ports | Audio | Audio output jack, external microphone jack |
| | Video | External monitor port |
| | Others | Keyboard/mouse port, USB port, modem jack |
| | Others (on external floppy disk drive) | Parallel port, RS-232C serial port, keyboard/mouse port |
| Infrared | | IR port (IrDA:115Kbps/1Mbps/4Mbps, SHARP ASK:9600bps) |
| Modem (may not be available in some countries) | | Data: 56Kbps(receive), 33.6Kbps(send), Fax: 14.4Kbps, with voice function |
| Power | AC adapter | 100-240V, 50-60 Hz |
| | Battery | Rechargeable lithium ion battery |
| | Battery life | Approximately 2.5 hours (standard battery only)<br>Approximately 8.5 hours (when external battery connected)<br>*battery life may vary depending on usage |
| | Battery charging time (standard and optional external battery pack) | Turned off/suspended to disk about 5.5 hours<br>Turned on: about 7.5 hours<br>*charging time may vary depending on usage |
| Dimensions | Computer | 10.19" wide × 8.35" deep × 0.84"(min.)/1.12"(max.) high<br>(259mm × 212mm × 21.2mm(min.)/28.3mm(max.)) |
| | Floppy disk drive unit | 4.65" wide × 6.81" deep × 0.94" high (118mm × 173mm × 24mm) |
| Weight | Computer | Approximately 3.19lbs (1.45kg) |
| | Flopply disk drive unit | Approxmiately 0.95lbs (4.30g) |
| Operating environment | Temperature | 50°F to 95°F (10°C to 35°C) |
| | Humidity | 20% to 80% (non-condensation) |

### Options

| | |
|---|---|
| **External Battery Pack** | CE-BL03 |
| **External CD-ROM Drive Unit** | CE-CD01 |

**CPU**

- Intel MMX Pentium 233MHz processor with 32KB cache memory and math coprocessor.
- Core Voltage: 1.8V, Signal interface: 2.5V, 320pin TCP package

**System core logic**

- Intel 430TX PCIset
- North bridge (System Controller): 82439TX (MTXC), Host to PCI bridge, controls L2 ache and system memory. Core Voltage: 3.3V, 324pin BGA package
- South bridge (PCI to ISA/IDE Xcelerator): 82371EB (PIIX4E), PCI to ISA bridge, controls IDE, USB and Power Management, Includes RTC. 3.3V (5V tolerance), 324pin BGA package

**System memory**

- Standard 64MB (Can not be extended)
- 4M × 16 bits type EDO DRAM × 8, 3.3V

**L2 Cache memory**

- Cache memory: 256KB, 32K × 32 bits pipeline burst SRAM × 2. Core Voltage: 3.3V, I/O Voltage: 2.5V, 100pin LQFP package × 2
- TAG RAM: 32K × 8 bits SRAM. Core Voltage: 3.3V, I/O Voltage: 2.5V, 28pin SOJ package

**Clock Generator**

- Microclock MIC1492-02
- Input 14.31813 MHz, Can be controlled by SM bus i/f
- Core Voltage: 3.3V, Output 3.3V & 2.5V, 28pin SSOP package

**Video Controller**

- NeoMagic NM2097
- Includes 1.1MB VRAM, System i/f: PCI, LCD i/f: LVDS

- Resolution and Number of colors

| Resolution | Number of Colors |
|---|---|
| 640 × 480 | 16<br>256<br>64K<br>16M (*1) |
| 800 × 600 | 256<br>64K |
| 1024 × 768 (*2) | 256 |

* 1: The number of colors in this mode is made using a dithering algorithm.

* 2: Only 800 × 600 dots are displayed on the internal LCD. Move the cursor to show the remainder of the 1024 × 768 dots.

**LCD**

- Sharp LQ113S1LH01, 11.3" SVGA TFT LCD with 1CCFT backlight
- Resolution: 800 × 600
- Effective viewing area (H × V): 230.4 × 172.8 mm
- Pixel Pitch: 0.288 × 0.288 mm
- Power source: 3.3V, 5V, 12V
- I/F: LVDS

**LVDS Controller**

- NS DS90C363MTD
- 3.3V, 48pin SSOP package

**PCMCIA Controller**

- Ricoh RL5C475A rev.0
- 1 slot PCMCIA Controller, Supports 16bit card, Card bus card, ZB port.
- 3.3V, 144pin LQFP package
- Power Switch: Micrel MIC2562A-1BM(3.3V, 5V, 12V, 14pin SOP package)

**HDD**

- Hitachi 2.5" 3.2GB HDD DK237A-32
- 5V i/f, 9.5mm H

**BIOS**

- SST 28SF040 4Mbits Flash EEPROM
- Includes System, Video, PnP and APM.
- 5V, 32pin PLCC package

**Keyboard Controller**

- Mitsubishi M38813
- Support 2 PS/2 ports and 1 Touch pad.
- 5V, 64pin TQFP package

**Keyboard**

- Sejin 81 keys keyboard for US, 82 keys for Europe
- IBM 101/102 keys compatible keyboard
- Supports 2 windows keys
- 17mm pitch, 2.5mm stroke

**Touch Pad**

- Alps Glide pad
- PS/2 mouse compatible
- 2 click buttons
- Resolution (X × Y): 290 ± 30 × 255 ± 30 cpi
- Supports IntelliMouse scroll function.
- Automatically disabled when external mouse is connected.

**I/O controller**

- NS PC97338VJG
- Controls Serial port, Parallel port, IR port and FDD.
- 5V, 100pin TQFP package

**RS232C driver/Receiver**

- Harris HIS213
- 5V, 28pin TSOP package

**FDD**

- Mitsubishi 3.5" FDD MF355H
- 5V i/f

**Audio Controller**

- Crystal CS4237B
- Sound Blaster, Sound Blaster Pro, Windows Sound System compatible
- Full duplex operation
- Controls Modem Chipselect
- 5V, 100pin TQFP package
- ZB port buffer: Crystal CS4331, 5V, 8pin SOP package

**Modem Controller (may not be available in some countries)**

- PCtel Software Modem PCT388T
- Supports K56Flex.
- 5V, 100pin TQFP package
- CODEC: SGS STLC7546, 5V 44pin TQFP package

**Embedded Controller**

- Hitachi 1chip micro controller H8
- Controls Power Sequence, Battery Charge, SM bus for Battery Gage.
- 5V, 100pin QFP

**DC/DC Controller**

- V5S(5V), V3S(3.3V): Toyota SB3052P, VAB(Battery or AC adapter), 28pin SSOP
- VCPUCORE(1.8V): Toyota SB3030, VAB(Battery or AC adapter), 16pin SOP
- VPP(12V): Linear Tech. LT1301, V5S(5V), 8pin SOP

**Regulator**

- VCPUIO(2.5V):Micrel MIC2951BU, V3S(3.3V), 5pin
- VMCU(4.7V): NS LP2951CM, VAB, 8pin SOP
- V3(3.1V): Trex XC62FP3102M, VMCU, 3pin

**Battery Charger**

- Linear Tech. LT1511
- 22V, 24pin SOP package

**Battery**

- Li-ion Battery
  Internal: Panasonic 3.7V × 1400mAh × 4cells(4 series)
  External: Panasonic 3.7V × 1500mAh × 8cells (4 series, 2 parallel)
- Battery Gauge: Banchmarq BQ2092
- Li-coin battery for CNOS backup: Hitachi Maxell CR2032, 3V, 220mAh

**AC adapter**

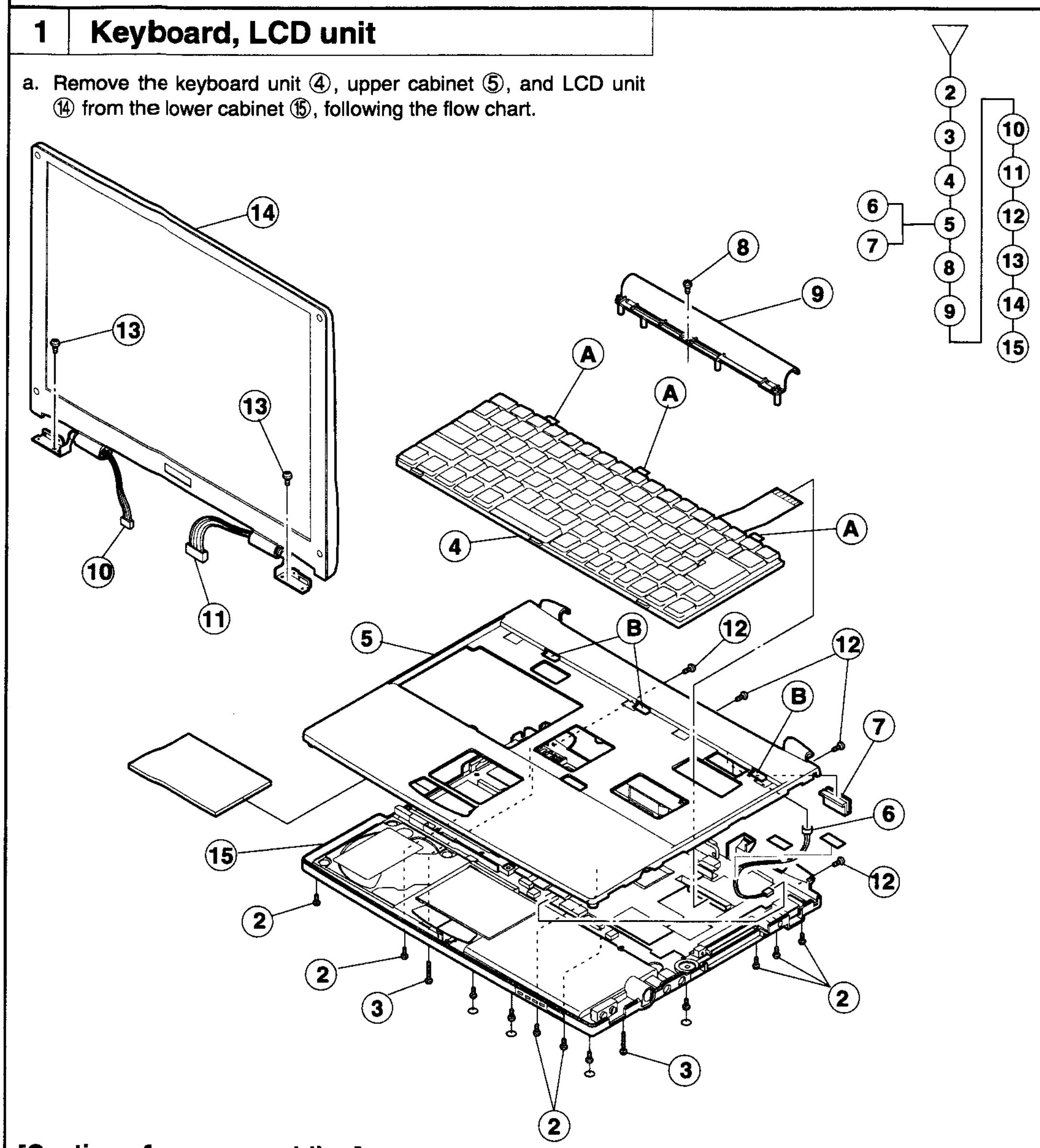
- SAMSUNG 22V 1.8A AC Adapter
- Input Voltage: 100-240VAC, Input Frequency 50/60Hz

# CHAPTER 3. DISASSEMBLY AND REASSEMBLY

1. Here is the procedure for disassembling the PC-A100. The product should be reassembled in the reverse order from disassembly.
2. The description of some components that can be disassembled and reassembled relatively easily may be omitted.
3. Before trying to disassemble the product, make sure of the wiring and the positions of the tapes and Mylars attached.

## 1 Keyboard, LCD unit

a. Remove the keyboard unit ④, upper cabinet ⑤, and LCD unit ⑭ from the lower cabinet ⑮, following the flow chart.

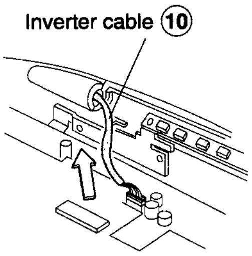

②
③
④
⑥
⑦
⑤
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑭
⑬
⑬
⑩
⑪
⑧
⑨
Ⓐ
Ⓐ
Ⓐ
④
⑤
Ⓑ
⑫
⑫
Ⓑ
⑦
⑥
⑫
⑮
②
②
③
②
③
②

### Parts List

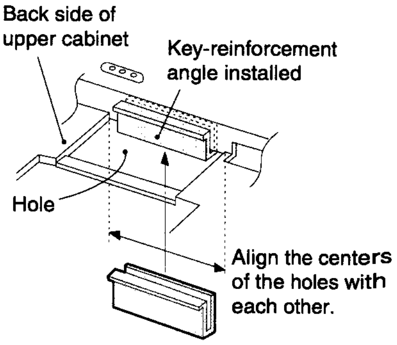
| No. | Part Name | Q'ty |
|---|---|---|
| 2 | Screw (M2 x 5) | 8 |
| 3 | Screw (M2 x 8) | 2 |
| 4 | Keyboard unit | 1 |
| 5 | Upper cabinet | 1 |
| 6 | Mike unit | 1 |
| 7 | Key-reinforcement angle | 1 |
| 8 | Screw (M2 x 6) | 1 |
| 9 | Indicator cover | 1 |
| 10 | Indicator cable | 1 |
| 11 | LCD cable | 1 |
| 12 | Screw (M2 x 5) | 4 |
| 13 | Screw (M2 x 4) | 2 |
| 14 | LCD unit | 1 |
| 15 | Lower cabinet | 1 |

**[Cautions for reassembling]**

1. The inverter cable ⑩ should be wired by pushing it in the direction indicated by the arrow.


Inverter cable ⑩

2. For the installation of the key-reinforcement angle, see the figure below.

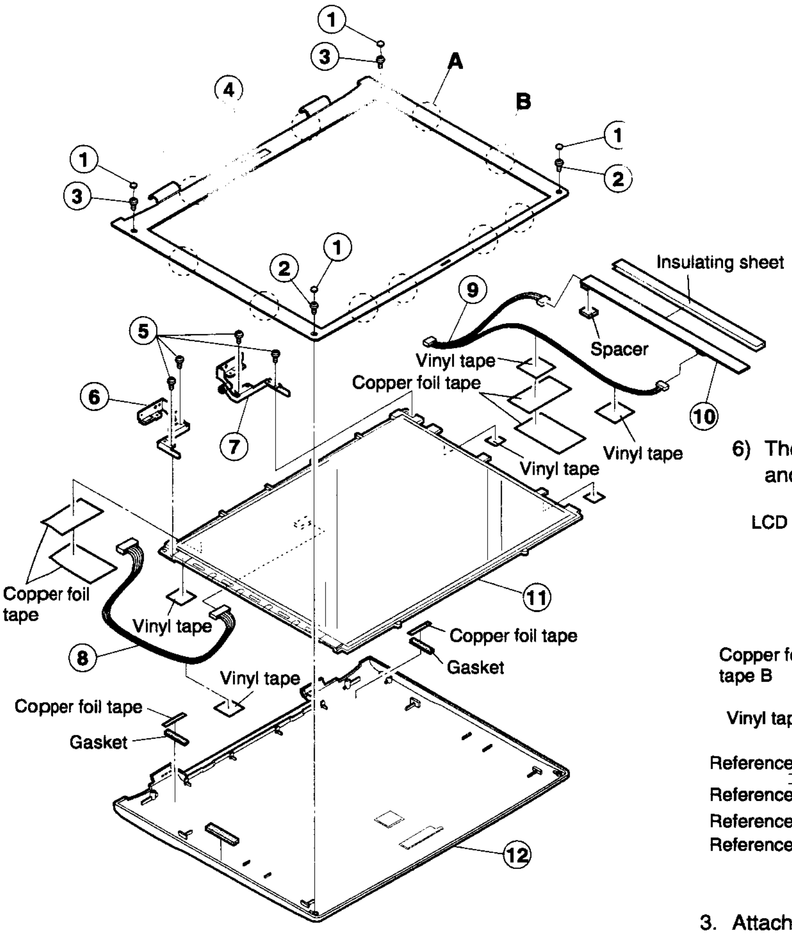

Back side of upper cabinet
Key-reinforcement angle installed
Hole
Align the centers of the holes with each other.

3. When installing the keyboard unit ④, align the projection of the unit (item Ⓐ) with the recess in the upper cabinet (item Ⓑ).

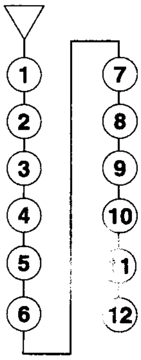
## 2. Inverter PWB, LCD unit

a. Remove the LCD unit from the lower cabinet, following the procedure 1-a.

b. Remove the LCD panel ④, inverter PWB ⑩, and LCD unit ⑪, following the flow chart.



①
③
A
④
B
①
②
①
③
②
①
Insulating sheet
⑨
⑤
Spacer
Vinyl tape
⑥
Copper foil tape
⑩
⑦
Vinyl tape
Vinyl tape
Copper foil tape
⑪
Vinyl tape
Copper foil tape
⑧
Gasket
Vinyl tape
Copper foil tape
Gasket
⑫



①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫

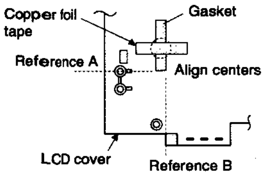
### Parts List

| No. | Part Name | Q'ty |
|---|---|---|
| 1 | Screw-covering sheet | 4 |
| 2 | Screw (M2 × 2.8) | 2 |
| 3 | Screw (M2 × 6) | 2 |
| 4 | LCD panel (display front cabinet) | 1 |
| 5 | Screw (M2 × 6) | 4 |
| 6 | Hinge R | 1 |
| 7 | Hinge L | 1 |
| 8 | Main cable | 1 |
| 9 | Inverter cable | 1 |
| 10 | Inverter PWB | 1 |
| 11 | LCD unit | 1 |
| 12 | LCD cover assembly | 1 |

### [Cautions for reassembling]

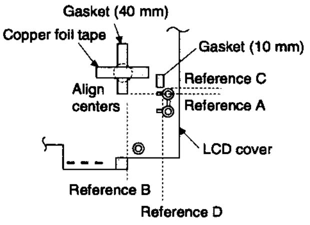
1. Attach two gaskets to the LCD cover assembly ⑫ using the following references:

- After attaching the gaskets (40 mm) aligning with references A and B, attach the copper foil tape to the gasket, aligning the center of the foil tape with the center of the gasket.



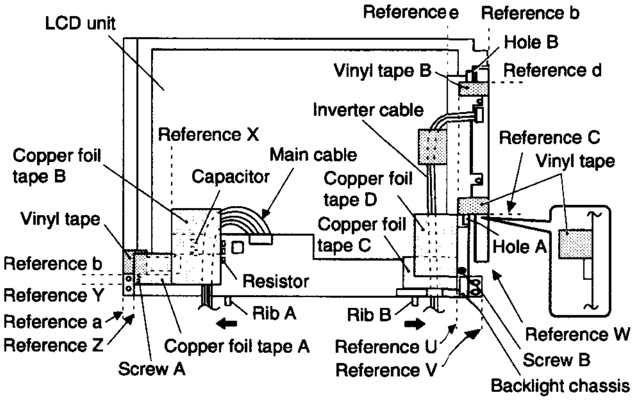
Copper foil tape
Gasket
Reference A
Align centers
LCD cover
Reference B

- After attaching the gasket (40 mm), aligning with references A and B, attach the copper foil tape to the gasket, aligning the center of the tape with the center of the gasket.
- Attach the gasket (10 mm), aligning with references C and D.



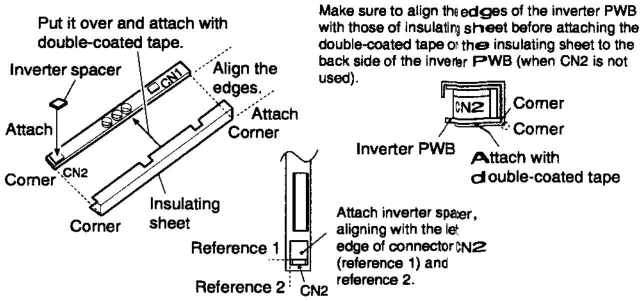
Gasket (40 mm)
Copper foil tape
Gasket (10 mm)
Reference C
Align centers
Reference A
LCD cover
Reference B
Reference D

2. The LCD unit should be wired as follows:
   1) After attaching the vinyl tapes, attach four copper foil tapes in the order of A to D.
   2) Make sure to attach the copper foil tape A to the screw A.
   3) Make sure to attach the copper foil tape C to both the screw B and backlight chassis.
   4) Use caution not to block the holes A and B when attaching vinyl tapes A and B.
   5) Make sure to pass the main cable between the capacitor and the resistor.
   6) The main cable should be passed to the left side of the rib A and the inverter cable to the right side of the rib B.



LCD unit
Reference e
Reference b
Hole B
Vinyl tape B
Reference d
Inverter cable
Reference X
Reference C
Copper foil tape B
Main cable
Vinyl tape
Capacitor
Copper foil tape D
Vinyl tape
Copper foil tape C
Hole A
Reference b
Resistor
Reference Y
Reference a
Rib A
Rib B
Reference W
Reference Z
Copper foil tape A
Reference U
Screw B
Screw A
Reference V
Backlight chassis

3. Attach the insulating sheet and inverter spacer to the inverter PWB, using the following cautions:



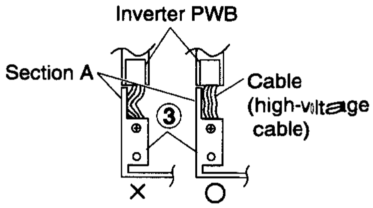
Put it over and attach with double-coated tape.
Inverter spacer
Align the edges.
Attach
Attach
Corner
CN1
Corner
CN2
Insulating sheet
Corner
Reference 1
Reference 2
CN2
CN2
Corner
Corner
Inverter PWB

Make sure to align the edges of the inverter PWB with those of insulating sheet before attaching the double-coated tape on the insulating sheet to the back side of the inverter PWB (when CN2 is not used).

Attach with double-coated tape

Attach inverter spacer, aligning with the left edge of connector CN2 (reference 1) and reference 2.

4. Use caution not to get the high-voltage cable caught when tightening the screw for the hinge L ⑦.



Inverter PWB
Section A
③
Cable (high-voltage cable)
X
O

Use caution not to get the inverter high-voltage cable caught in the section A of the hinge L.

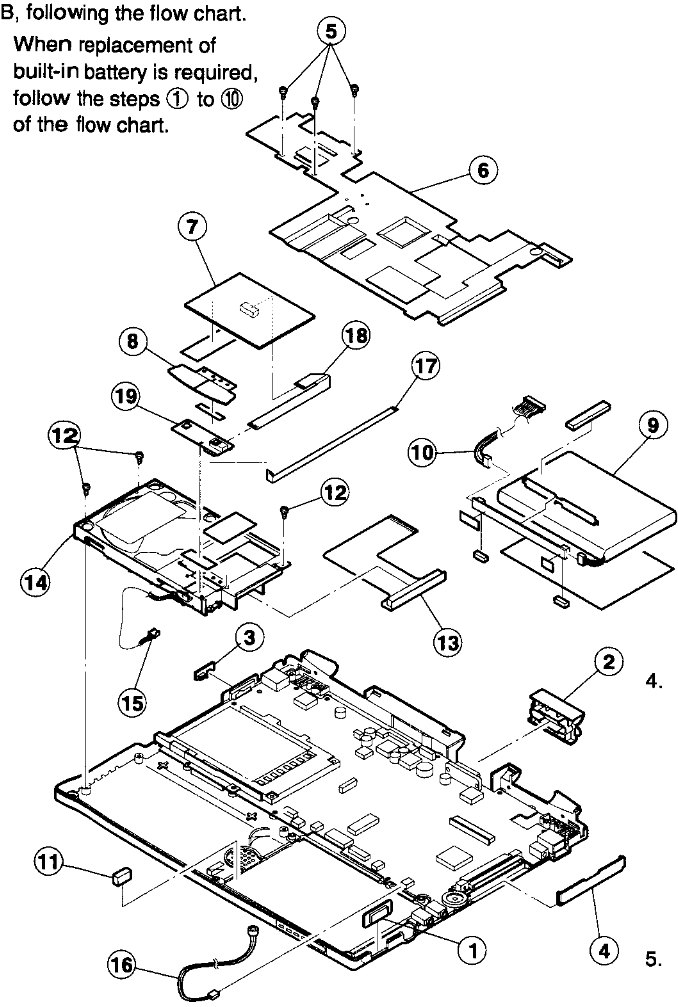
5. When setting the LCD panel ④ onto the LCD cover assembly, first fit the A and B of the 10 hooks indicated by dotted lines on the LCD panel ④. Use caution not to get the inverter insulating sheet caught.

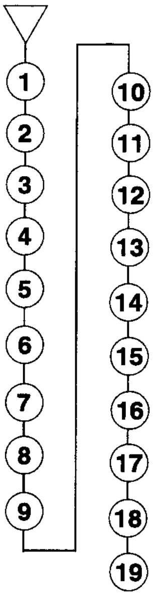
## 3. Lower cabinet (No. 1), built-in battery replacement

a. Remove the keyboard, upper cabinet, and LCD unit from the lower cabinet, following the procedure 1-a.

b. Remove the built-in battery, HDD unit assembly, and glide point PWB, following the flow chart.

[Note] When replacement of built-in battery is required, follow the steps ① to ⑩ of the flow chart.


⑤
⑥
⑦
⑧
⑱
⑰
⑲
⑫
⑩
⑨
⑫
⑭
⑬
③
②
⑮
⑪
①
④
⑯

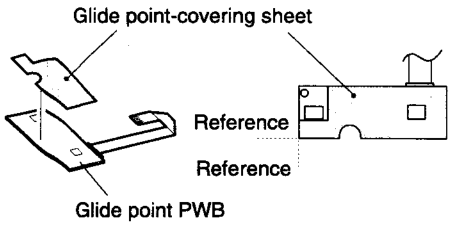

①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯
⑰
⑱
⑲

### Parts List

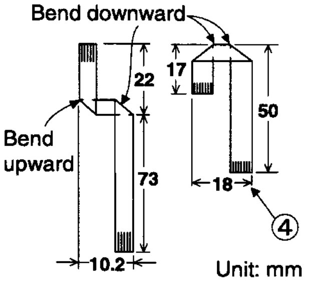
| No. | Part Name | Q'ty |
|---|---|---|
| 1 | IR filter | 1 |
| 2 | D-sub connector cover | 1 |
| 3 | Power supply switch button | 1 |
| 4 | IO connector cover | 1 |
| 5 | Screw (M2 x 8) | 3 |
| 6 | Heat dissipation plate assembly | 1 |
| 7 | Glide point pad assembly | 1 |
| 8 | Glide point button | 1 |
| 9 | Built-in battery | 1 |
| 10 | Power supply cable | 1 |
| 11 | Glide PWB supporting material | 1 |
| 12 | Screw (M2 x 4) | 1 |
| 13 | HDD FPC | 1 |
| 14 | HDD unit assembly | 1 |
| 15 | Shut switch cable | 1 |
| 16 | Mike cable | 1 |
| 17 | Glide point FPC (fine) | 1 |
| 18 | Glide point FPC (thick) | 1 |
| 19 | Glide point PWB | 1 |

### [Cautions for reassembling]

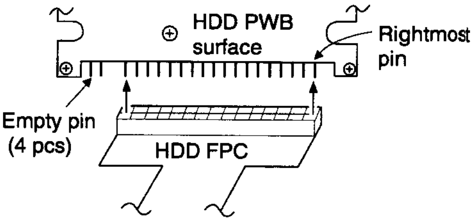
1. Attach the glide point-covering sheet to the glide point PWB ⑲, using the following references:


Glide point-covering sheet
Reference
Reference
Glide point PWB

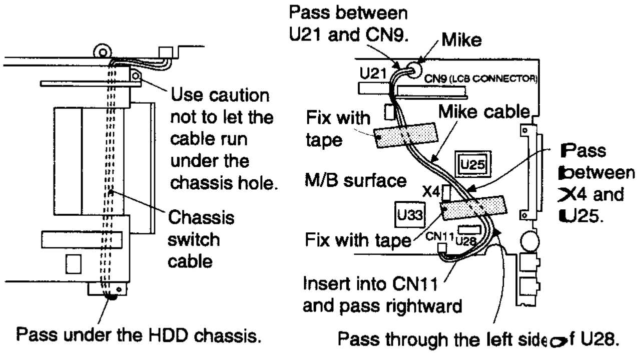
2. Bend the FPCs as shown in the figure on the right, when replacing the glide point FPC (fine) ⑰ and the glide point FPC (thick) ⑱.
2. When replacing the glide point FPC (fine) ⑰ and glide point FPC (thick) ⑱, bend them as shown in the figure on the right. 3.
3. Connect the shut switch cable ⑮ to the main PWB CN23 before installing the HDD unit ⑭.


Bend downward
22
17
50
Bend upward
73
18
10.2
④
Unit: mm

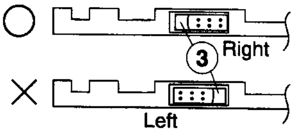
4. Connect the HDD FPC ⑬ to the rightmost pin of the HDD.


HDD PWB surface
Rightmost pin
Empty pin (4 pcs)
HDD FPC

5. The shut switch cable ⑮ and mike cable ⑯ should be wired as shown below.


Use caution not to let the cable run under the chassis hole.
Chassis switch cable
Pass under the HDD chassis.
Pass between U21 and CN9.
Mike
U21
CN9 (LCD CONNECTOR)
Fix with tape
Mike cable
U25
M/B surface
X4
Pass between X4 and U25.
U33
Fix with tape
CN11
U28
Insert into CN11 and pass rightward
Pass through the left side of U28.

6. Connect glide point FFC (large) to glide point pad assembly ⑦. Install glide point pad assembly ⑦ to HDD chassis.
7. Install power supply switch button ③ as shown below.


○
③
Right
×
Left

As shown in the figure on the left, the [:::] section of the power switch button cover should be located at the right side.

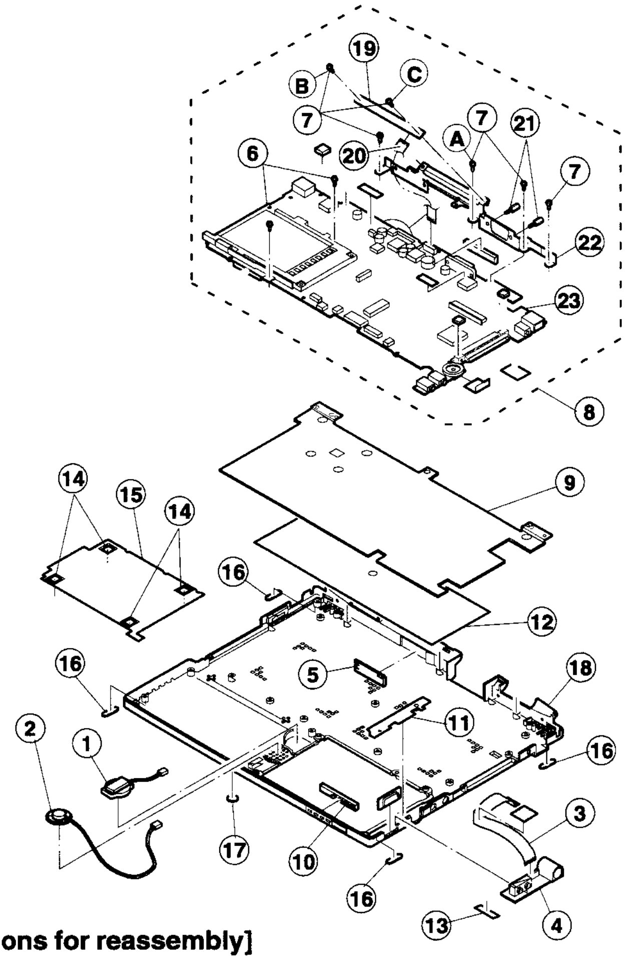
Make sure the button is inserted in parallel to the cabinet. (Otherwise, the rib might be broken leading to poor sliding of the button.)

## 4. Lower cabinet (No.2)

a. Remove the keyboard, upper cabinet, and LCD unit from the lower cabinet following the procedure 1-a.

b. Remove the built-in battery, HDD unit and others, following the procedure 3-b.

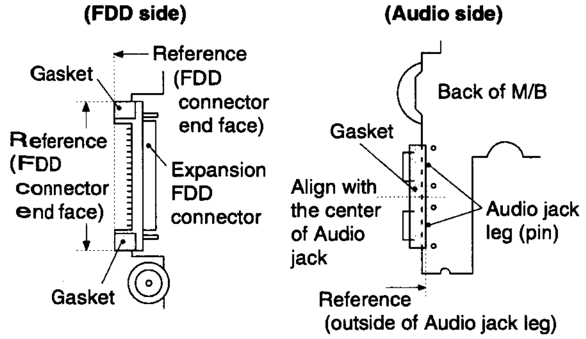
c. Remove the lithium battery, speaker, IR-PS PWB and main PWB, following the flow chart.



⑲
B
C
⑦
⑳
A
⑦
㉑
⑥
⑦
㉒
㉓
⑧
⑨
⑭
⑮
⑭
⑯
⑫
⑯
⑤
⑱
⑪
②
①
⑯
③
⑰
⑩
⑯
⑬
④

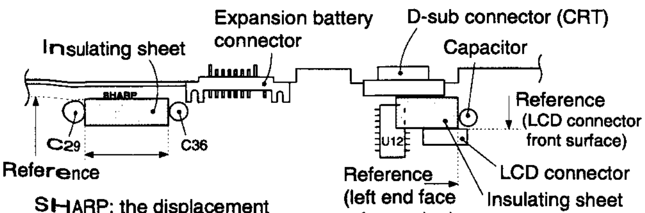
### [Cautions for reassembly]

1. Attach the gaskets (2 at FDD side, 1 at Audio side) to main PWB ㉓ using the following references.



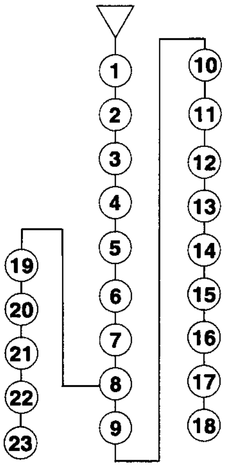
(FDD side)
(Audio side)
Reference (FDD connector end face)
Gasket
Reference (FDD connector end face)
Expansion FDD connector
Gasket
Back of M/B
Gasket
Align with the center of Audio jack
Audio jack leg (pin)
Reference (outside of Audio jack leg)

2. Attach the two insulating sheets to main PWB ㉓ using the following references.



Insulating sheet
Expansion battery connector
D-sub connector (CRT)
Capacitor
SHARP
C29
C36
Reference
U12
Reference (LCD connector front surface)
Reference (left end face of capacitor)
LCD connector
Insulating sheet

SHARP: the displacement of ↕ is allowable.
(lower end of SHARP logo mark.)



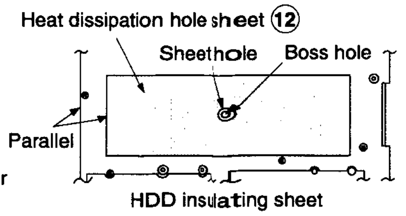
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯
⑰
⑱
⑲
⑳
㉑
㉒
㉓

### Parts List

| No. | Part Name | Q'ty |
|---|---|---|
| 1 | Lithium battery | 1 |
| 2 | Speaker | 1 |
| 3 | FFC (for IR-PS PWB) | 1 |
| 4 | IR-PS PWB | 1 |
| 5 | Expansion battery connector cover | 1 |
| 6 | Screw (M2 x 2.8) | 2 |
| 7 | Screw (Ms x 4) | 6 |
| 8 | Main PWB assembly | 1 |
| 9 | Heat dissipation plate assembly | 1 |
| 10 | Battery indicator lens | 1 |
| 11 | IR PWB insulating sheet | 1 |
| 12 | Heat dissipation hole sheet | 1 |
| 13 | Reset label | 1 |
| 14 | HDD cushion | 1 |
| 15 | HDD insulating sheet | 1 |
| 16 | Rubber leg (oval) | 4 |
| 17 | Rubber leg (circle) | 1 |
| 18 | Lower cabinet | 1 |
| 19 | LED PWB | 1 |
| 20 | LED FFC | 1 |
| 21 | Hex. screw | 2 |
| 22 | Connector angle | 1 |
| 23 | Main PWB | 1 |

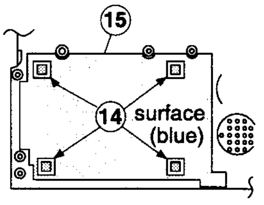
3. Attach the heat dissipation sheet ⑫ using the following references.

Align the heat dissipation sheet hole with the boss hole in the lower cabinet and attach the heat dissipation sheet so that the sheet is parallel to the left end surface of the lower cabinet.



Heat dissipation hole sheet ⑫
Sheet hole
Boss hole
Parallel
HDD insulating sheet

4. Attach HDD insulating sheet ⑮ to HDD cushion ⑭ using the following references.



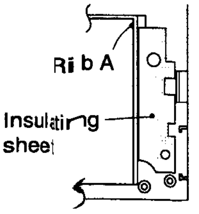
⑮
⑭
surface (blue)

(Note)
HDD cushion must be attached using double-coated tape.
Do not peel off the vinyl (blue) from the surface.

[Note] HDD cushion must be attached using double-coated tape. Do not peel off the vinyl (blue) from the surface.

5. Attach IR insulating sheet ⑪ as shown in the figure on the right.
6. When setting main PWB assembly ⑧ to the lower cabinet, insert the knob and audio jack first.
7. Secure the main PWB assembly ⑧ with 6 screws. The screws should be tightened in the order of A to C. Use caution not to damage LCD FFC.

Attach I/R PWB insulating sheet, using rib A as a reference.



Rib A
Insulating sheet

# CHAPTER 4. PRECAUTIONS

## FDD/HDD/CD-ROM

### (Precautions when unpacking the package)

1. Be careful not to expose unit to any physical shock since it is a precision instrument. (do not give it a shock equivalent to or exceeding a drop from the height of 70 cm in a packed condition)
2. Be sure workers and their cloths are not charged with electricity when they handle the parts. (be sure they wear a grounding band)
3. Packing must be done under the following conditions: (same conditions apply to the assembling)

| Temperature (°C) | Humidity (% RH) | Temperature change (°C/H) |
|---|---|---|
| 10 ~ 40 | 20 ~ 80 | 20 |

   * When the temperature is low, do not forget to take measures against static electricity.
   * Temperature change means the difference in temperature between before and after the unpacking.

4. Be sure not to pile up precision instuments by themselves but to place each of them on a stable and non-shocking underlay. (be sure to keep the board surface down)

### (Storage)

◆ Storage method common in servicing and in packed condition

1. Be sure to store it in the following conditions:

| Temperature (°C) | Humidity (% RH) |
|---|---|
| −16 ~ 60 | 20 ~ 80 |

   * Do not store in a car in summer.
   * When the temperature is low, do not forget to take measures against static electricity.

◆ Storage method in servicing

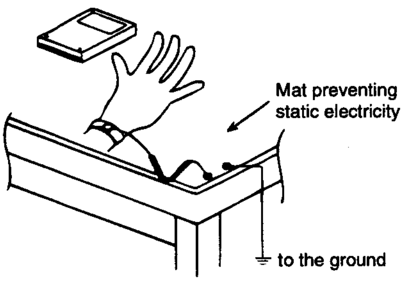
1. When parts are stored alone, they should be covered. (be sure to take measures against dust)
2. Be sure to take measures against static electricity. (Place the part on a mat which prevent static electricity)
3. Do not pile up the parts. (also be sure not place any other part on a part)

◆ Storage method in packed condition

1. Regardless the length of the storage period, store it in the same condition as it is originally packed and delivered.

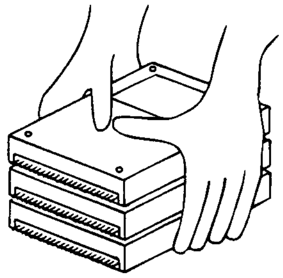
### (Handling)

1. Do not forget to wear a grounding band when working on unit.

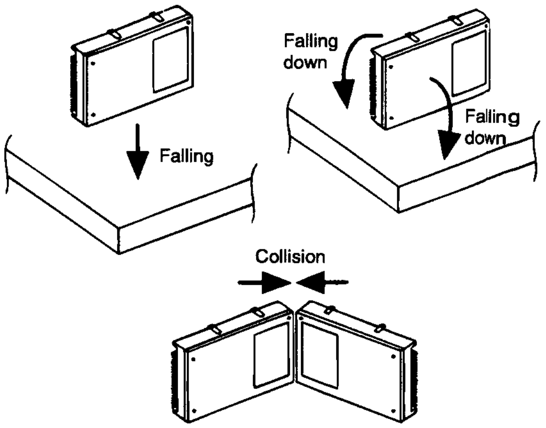


* Confirm with a tester when you put the grounding band (1MΩ ~ 10MΩ) on. A grounding wire should be installed at an appropriate location.

2. For any unit, do not stack in piles.

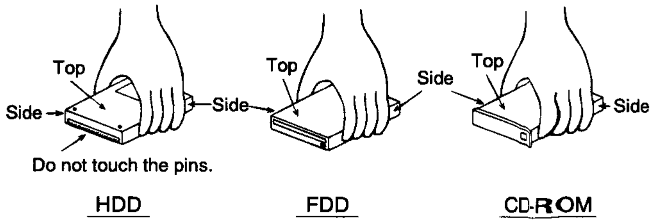


3. Avoid any impact with the unit.



* Be sure not to use the unit(s) if they were subject to any physical shock.

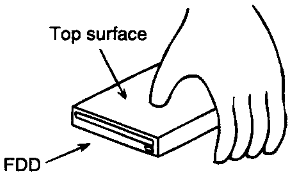
4. Hold the units by the side.



5. Use designated torque/tools (low impact drivers)
6. Keep magnetic materials away from the unit.

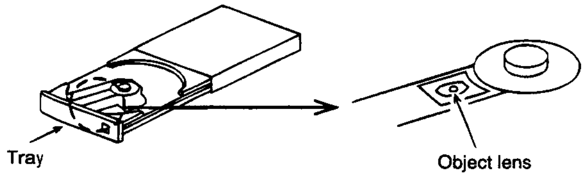
### Precaution when handling FDD

1. Do not press the top surface of FDD.



## Precautions when handling CD-ROM drive

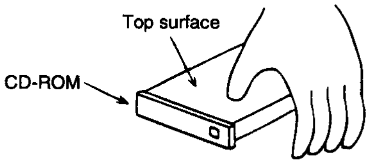
1. Be sure not to touch the object lens.
2. Be sure to keep dust and dirt away from the object lens.



* If the object lens is stained with dust and/or dirt, remove them with one of the following methods:

- Blow the dust with an airgun.
- Use Hitachi-Maxell's CD-ROM lens cleaner.
- Wipe the lens gently with an applicator using Nippon Appicators' CD lens cleaner liquid B4.

3. Do not press the top surface of CD-RM drive.



4. Do not pull the tray by force.
5. Do not apply any upward, downward, leftward or rightward force to the tray.
6. Be sure to insert a CD-ROM by pressing it in the middle.

## Precaution on HDD

1. Cable connection/disconnection and transfer of HDD shall be performed after t he unit is left untoutched for more than 15 seconds after the power suppy is t urned off (a state where the motor of HDD has been stopped or green/red light has been on).

# CHAPTER 5. RE-INSTALLATION

## Re-installation Instructions for PC-A100 Series

### Preparation for Re-installation

You can format the hard disk and re-install the preinstalled software with the recovery CD-ROM, and set the status of your computer to the same configuration as shipped from the factory. Necessary for re-installation are the following:

- Optional external CD-ROM drive (SHARP CE-CD01)
- Product Recovery CD-ROM
- Floppy disks or other external media for data backup
- Getting Started Microsoft Windows 98 manual

Unless otherwise specified, the instructions in this booklet assume that you use SHARP CE-CD01 CD-ROM drive.

- It will take about 30 minutes to complete the re-installation. The time depends on the data transfer rate of the CD-ROM drive.
- It takes about five seconds for the system to recognize a CD-ROM. If you operate too quickly, an error message may appear. In this case, return to the first step and repeat the installation.
- Use the Product Recovery CD-ROM only for your computer.
- Unless otherwise specified, the instructions in this booklet assume that you are installing Windows 98 into the C:\WINDOWS directory.

In the re-installation procedures, use only AC power. If you use the battery and the battery power becomes low, you cannot continue the re- installation.

### Backing up the data

Before formatting the hard disk, you should back up your data. For details on how to back up your data, see the Windows Online Help.

Although the pointer may be shown on the screen, never touch the keyboard or the glide pad during recovery except when the message prompts you to.

### Formatting the hard disk and reinstalling Windows 98 and other programs

1. If any peripheral devices, except the external floppy disk drive and the CD- ROM drive, are connected to your computer, disconnect them. See Chapter 4 of the Operation Manual.
2. Connect the external CD-ROM drive to the computer and turn it on.
3. Turn on the computer.
4. When the message Press <F2> to enter Setup appears, press F2. The Setup Utility opens.
5. Insert the Product Recovery CD-ROM into the CD-ROM drive.
6. In the Exit menu, select Load Setup Defaults; then, press Enter twice.
7. Set the items in each menu as follows:

   **Main**

   | | |
   |---|---|
   | Boot Sequence: | Set 1 to Option CD-ROM Drive |

   **Power**

   | | |
   |---|---|
   | Power Management Function | Disabled |

8. Press Esc; then, Enter twice. The system restarts.
9. Read the message and press Enter.
10. Follow the instruction on the screen.
11. After the hard disk is recovered, remove the Product Recovery CD-ROM and press any key. The system restarts.
12. Set up Windows 98, following the instructions on the screen.
13. After the setup is completed, select Shut Down. from the Start menu.
14. In the Shut Down Windows dialog box, select Restart; then, Yes. The system restarts.
15. When the message Press <F2> to enter Setup appears, press F2. The Setup Utility opens.
16. In the Exit menu, select Load Setup Defaults; then, press Enter twice.
17. Make sure the item Exit Saving Changes is highlighted and press Enter twice. The system restarts, and recovery is completed.

SHARP

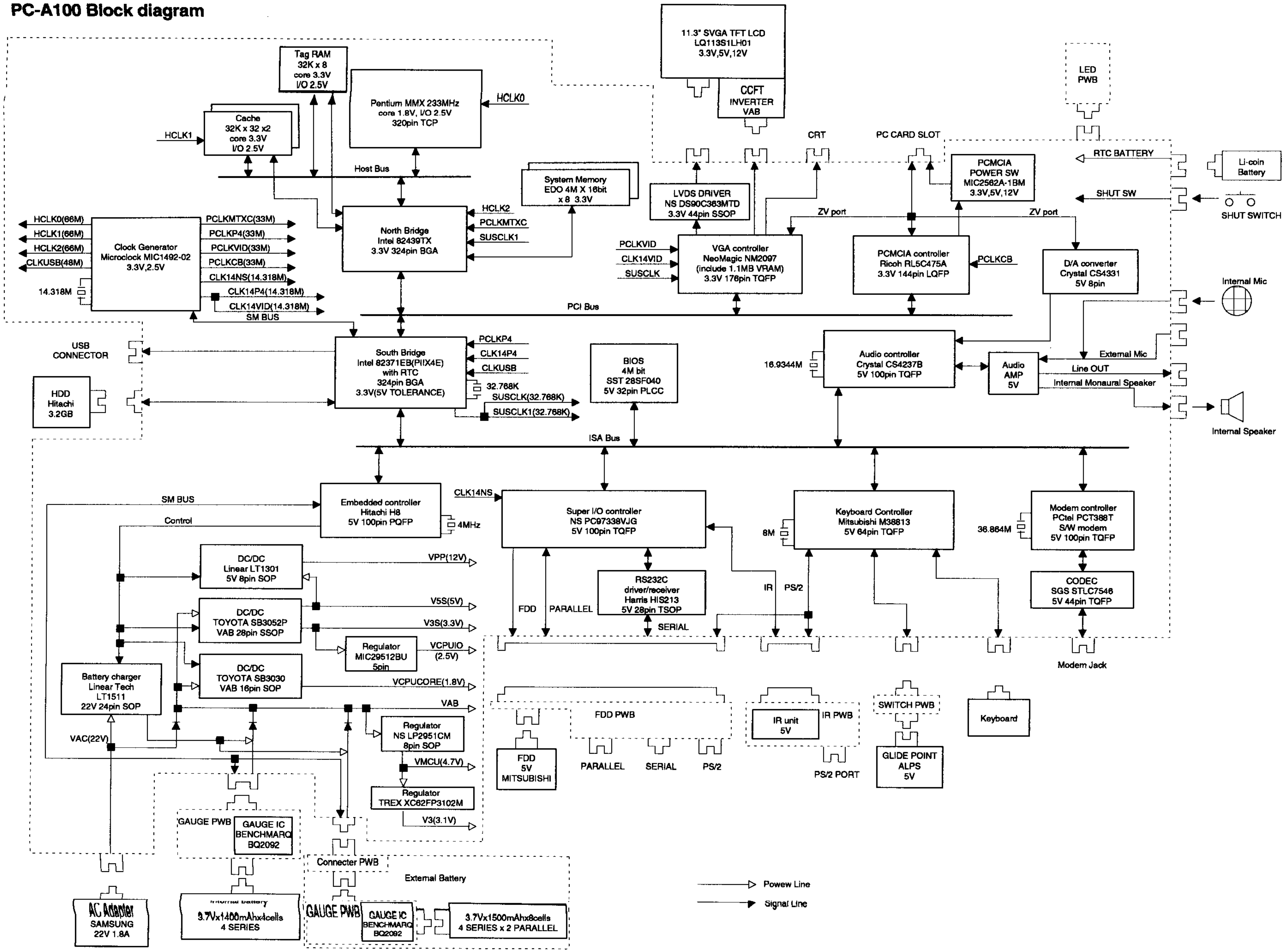
COPYRIGHT © 1998 BY SHARP CORPORATION
All rights reserved.

No part of this publication may be reproduced,
stored in a retrieval system, or transmitted.
In any form or by any means,
electronic, mechanical, photocopying, recording, or otherwise,
without prior written permission of the publisher.

**SHARP CORPORATION**
**Printing Reprographic Systems Group**
**Quality & Reliability Control Center**
**Yamatokoriyama, Nara 639-1186, Japan**
1998 September Printed in U.K. Ⓢ

# CHAPTER 6. BLOCK DIAGRAM

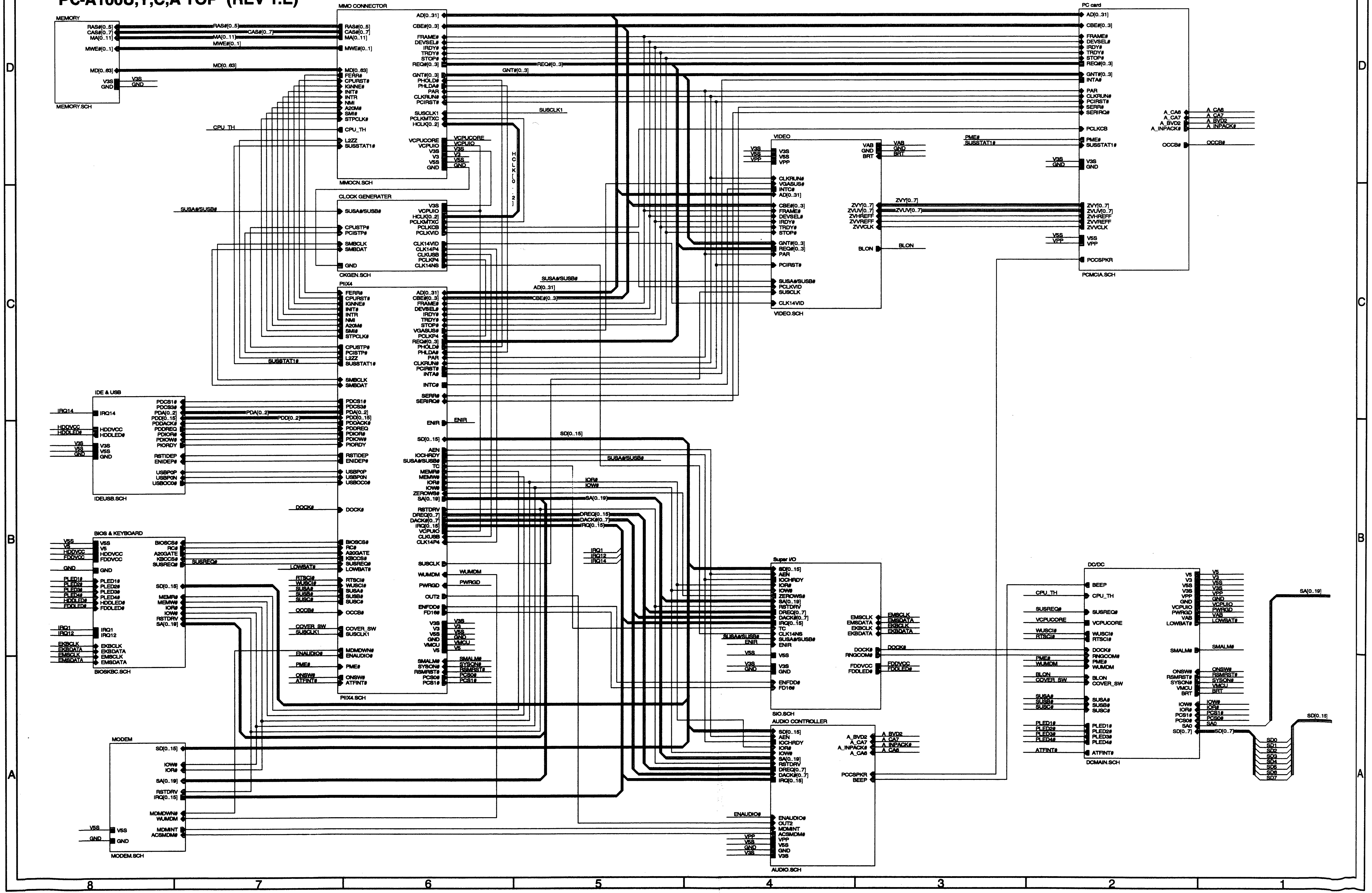
## PC-A100 Block diagram



Tag RAM 32K x 8 core 3.3V I/O 2.5V
Pentium MMX 233MHz core 1.8V, I/O 2.5V 320pin TCP
HCLK0
Cache 32K x 32 x2 core 3.3V I/O 2.5V
HCLK1
Host Bus
System Memory EDO 4M X 16bit x 8 3.3V
HCLK0(66M)
HCLK1(66M)
HCLK2(66M)
CLKUSB(48M)
Clock Generator Microclock MIC1492-02 3.3V,2.5V
14.318M
PCLKMTXC(33M)
PCLKP4(33M)
PCLKVID(33M)
PCLKCB(33M)
CLK14NS(14.318M)
CLK14P4(14.318M)
CLK14VID(14.318M)
SM BUS
North Bridge Intel 82439TX 3.3V 324pin BGA
HCLK2
PCLKMTXC
SUSCLK1
11.3" SVGA TFT LCD LQ113S1LH01 3.3V,5V,12V
CCFT INVERTER VAB
LED PWB
CRT
PC CARD SLOT
LVDS DRIVER NS DS90C383MTD 3.3V 44pin SSOP
PCMCIA POWER SW MIC2562A-1BM 3.3V,5V,12V
RTC BATTERY
Li-coin Battery
SHUT SW
SHUT SWITCH
ZV port
ZV port
PCLKVID
CLK14VID
SUSCLK
VGA controller NeoMagic NM2097 (include 1.1MB VRAM) 3.3V 176pin TQFP
PCMCIA controller Ricoh RL5C475A 3.3V 144pin LQFP
PCLKCB
D/A converter Crystal CS4331 5V 8pin
Internal Mic
PCI Bus
USB CONNECTOR
HDD Hitachi 3.2GB
South Bridge Intel 82371EB(PIIX4E) with RTC 324pin BGA 3.3V(5V TOLERANCE)
PCLKP4
CLK14P4
CLKUSB
32.768K
SUSCLK(32.768K)
SUSCLK1(32.768K)
BIOS 4M bit SST 28SF040 5V 32pin PLCC
16.9344M
Audio controller Crystal CS4237B 5V 100pin TQFP
Audio AMP 5V
External Mic
Line OUT
Internal Monaural Speaker
Internal Speaker
ISA Bus
SM BUS
Control
Embedded controller Hitachi H8 5V 100pin PQFP
4MHz
CLK14NS
Super I/O controller NS PC97338VJG 5V 100pin TQFP
8M
Keyboard Controller Mitsubishi M38813 5V 64pin TQFP
36.864M
Modem controller PCtel PCT388T S/W modem 5V 100pin TQFP
CODEC SGS STLC7546 5V 44pin TQFP
Modem Jack
DC/DC Linear LT1301 5V 8pin SOP
VPP(12V)
V5S(5V)
DC/DC TOYOTA SB3052P VAB 28pin SSOP
V3S(3.3V)
Regulator MIC29512BU 5pin
VCPUIO (2.5V)
DC/DC TOYOTA SB3030 VAB 16pin SOP
VCPUCORE(1.8V)
VAB
Battery charger Linear Tech LT1511 22V 24pin SOP
VAC(22V)
Regulator NS LP2951CM 8pin SOP
VMCU(4.7V)
Regulator TREX XC62FP3102M
V3(3.1V)
RS232C driver/receiver Harris HIS213 5V 28pin TSOP
FDD
PARALLEL
SERIAL
IR
PS/2
FDD PWB
FDD 5V MITSUBISHI
PARALLEL
SERIAL
PS/2
IR unit 5V
IR PWB
PS/2 PORT
SWITCH PWB
GLIDE POINT ALPS 5V
Keyboard
GAUGE PWB
GAUGE IC BENCHMARQ BQ2092
Connecter PWB
External Battery
AC Adapter SAMSUNG 22V 1.8A
Internal Battery
3.7Vx1400mAhx4cells 4 SERIES
GAUGE PWB
GAUGE IC BENCHMARQ BQ2092
3.7Vx1500mAhx8cells 4 SERIES x 2 PARALLEL
Powew Line
Signal Line

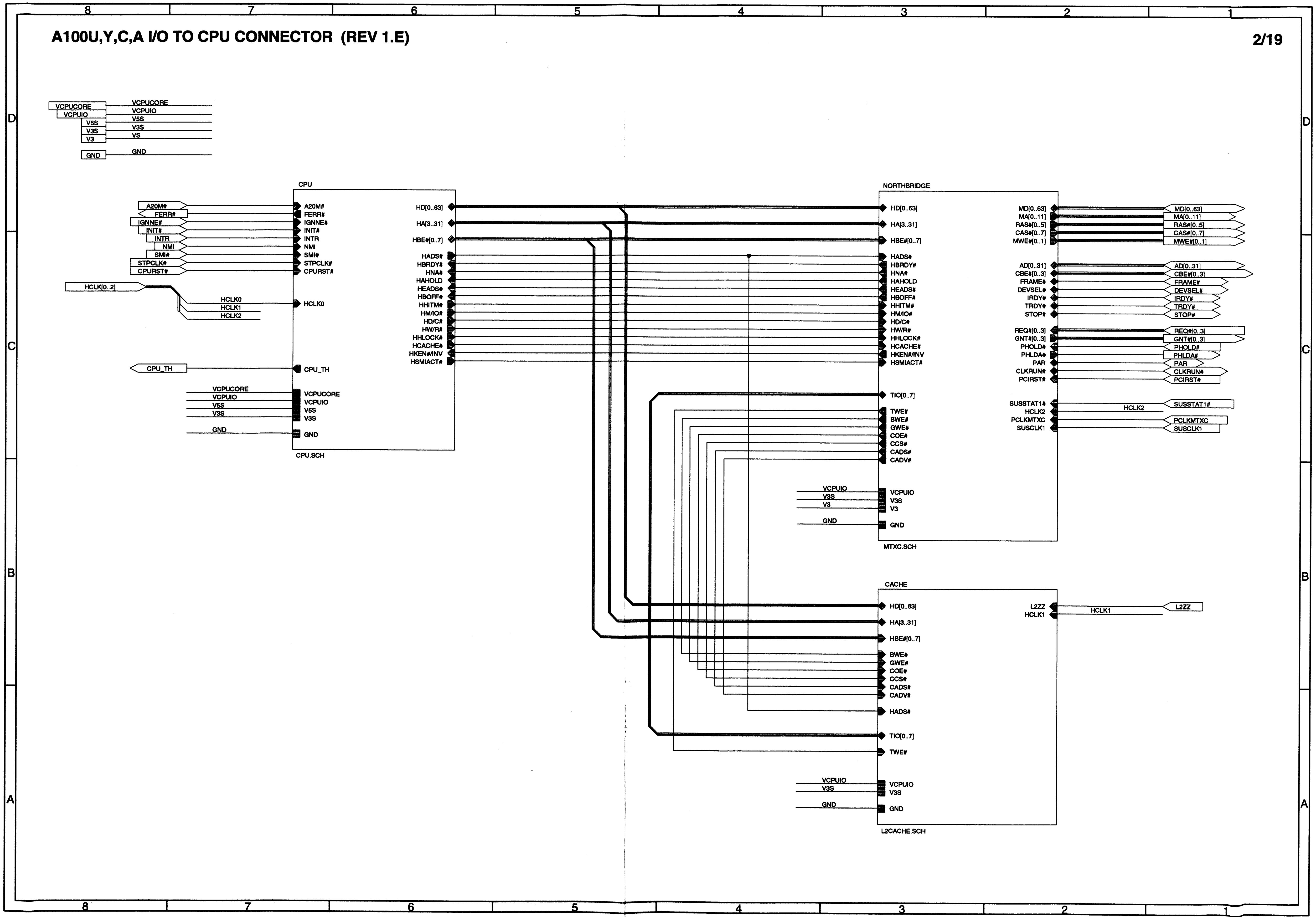
# CHAPTER 7. CIRCUIT DIAGRAM AND PARTS LAYOUT

## PC-A100U,Y,C,A TOP (REV 1.E)


MEMORY
MEMORY.SCH
MMO CONNECTOR
MMOCN.SCH
CLOCK GENERATER
CKGEN.SCH
PIIX4
PIIX4.SCH
IDE & USB
IDEUSB.SCH
BIOS & KEYBOARD
BIOSKBC.SCH
MODEM
MODEM.SCH
VIDEO
VIDEO.SCH
PC card
PCMCIA.SCH
Super I/O
SIO.SCH
AUDIO CONTROLLER
AUDIO.SCH
DC/DC
DCMAIN.SCH
RAS#[0..5]
CAS#[0..7]
MA[0..11]
MWE#[0..1]
MD[0..63]
V3S
GND
AD[0..31]
CBE#[0..3]
FRAME#
DEVSEL#
IRDY#
TRDY#
STOP#
REQ#[0..3]
GNT#[0..3]
PAR
CLKRUN#
PCIRST#
SERR#
SUSCLK1
HCLK[0..2]
CPU_TH
SUSA#/SUSB#
SUSSTAT1#
PDA[0..2]
PDD[0..15]
IRQ14
HDDVCC
HDDLED#
SD[0..15]
SA[0..19]
DREQ[0..7]
DACK#[0..7]
IRQ[0..15]
IOR#
IOW#
ENIR
DOCK#
SUSREQ#
LOWBAT#
WUMDM
PWRGD
ENAUDIO#
PME#
ONSW#
ATFINT#
COVER_SW
ZVY[0..7]
ZVUV[0..7]
BLON
VAB
BRT
PCCSPKR
BEEP
A_CA6
A_CA7
A_BVD2
A_INPACK#
OCCB#
EMSCLK
EMSDATA
EKBCLK
EKBDATA
FDDVCC
FDDLED#
SMALM#
RSMRST#
SYSON#
VMCU
PCS1#
PCS0#
SA0
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
8
7
6
5
4
3
2
1
D
C
B
A

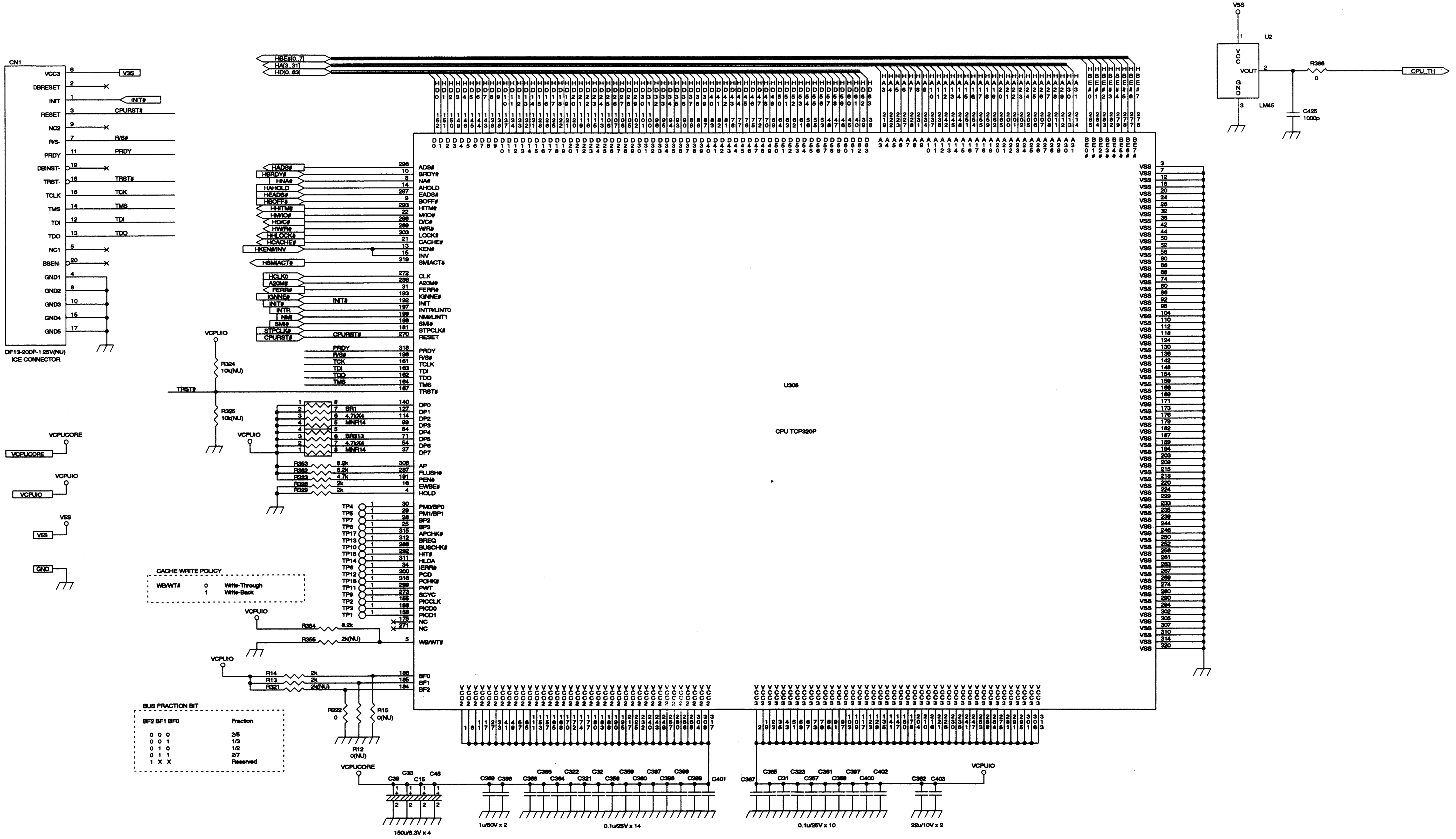
ACD1.DSF

# A100U,Y,C,A I/O TO CPU CONNECTOR (REV 1.E)


8
7
6
5
4
3
2
1
D
C
B
A
VCPUCORE
VCPUIO
V5S
V3S
V3
VS
GND
CPU
A20M#
FERR#
IGNNE#
INIT#
INTR
NMI
SMI#
STPCLK#
CPURST#
HCLK[0..2]
HCLK0
HCLK1
HCLK2
CPU_TH
HD[0..63]
HA[3..31]
HBE#[0..7]
HADS#
HBRDY#
HNA#
HAHOLD
HEADS#
HBOFF#
HHITM#
HM/IO#
HD/C#
HW/R#
HHLOCK#
HCACHE#
HKEN#/INV
HSMIACT#
CPU.SCH
NORTHBRIDGE
TIO[0..7]
TWE#
BWE#
GWE#
COE#
CCS#
CADS#
CADV#
MD[0..63]
MA[0..11]
RAS#[0..5]
CAS#[0..7]
MWE#[0..1]
AD[0..31]
CBE#[0..3]
FRAME#
DEVSEL#
IRDY#
TRDY#
STOP#
REQ#[0..3]
GNT#[0..3]
PHOLD#
PHLDA#
PAR
CLKRUN#
PCIRST#
SUSSTAT1#
HCLK2
PCLKMTXC
SUSCLK1
MTXC.SCH
CACHE
L2ZZ
HCLK1
L2CACHE.SCH

A-C02.DSF

# A100U,Y,C,A TILLAMOOK (REV 1.E)


CN1
VCC3
DBRESET
INIT
RESET
NC2
R/S-
PRDY
DBINST-
TRST-
TCLK
TMS
TDI
TDO
NC1
BSEN-
GND1
GND2
GND3
GND4
GND5
V3S
INIT#
CPURST#
R/S#
PRDY
TRST#
TCK
TMS
TDI
TDO
DF13-20DP-1.25V(NU)
ICE CONNECTOR
HBE#[0..7]
HA[3..31]
HD[0..63]
HADS#
HBRDY#
HNA#
HAHOLD
HEADS#
HBOFF#
HHITM#
HM/IO#
HD/C#
HW/R#
HHLOCK#
HCACHE#
HKEN#/INV
HSMIACT#
HCLK0
A20M#
FERR#
IGNNE#
INIT#
INTR
NMI
SMI#
STPCLK#
CPURST#
ADS#
BRDY#
NA#
AHOLD
EADS#
BOFF#
HITM#
M/IO#
D/C#
W/R#
LOCK#
CACHE#
KEN#
INV
SMIACT#
CLK
A20M#
FERR#
IGNNE#
INIT
INTR/LINT0
NMI/LINT1
SMI#
STPCLK#
RESET
PRDY
R/S#
TCLK
TDI
TDO
TMS
TRST#
VCPUIO
R324
10k(NU)
R325
10k(NU)
TRST#
BR1
4.7kX4
MNR14
BR313
4.7kX4
MNR14
DP0
DP1
DP2
DP3
DP4
DP5
DP6
DP7
R353 8.2k
R352 8.2k
R323 4.7k
R328 2k
R329 2k
AP
FLUSH#
PEN#
EWBE#
HOLD
TP4
TP5
TP7
TP8
TP17
TP13
TP10
TP15
TP14
TP6
TP12
TP16
TP11
TP9
TP2
TP3
TP1
PM0/BP0
PM1/BP1
BP2
BP3
APCHK#
BREQ
BUSCHK#
HIT#
HLDA
IERR#
PCD
PCHK#
PWT
SCYC
PICCLK
PICD0
PICD1
NC
NC
R354 8.2k
R355 2k(NU)
WB/WT#
R14 2k
R13 2k
R321 2k(NU)
BF0
BF1
BF2
R322
0
R15
0(NU)
R12
0(NU)
VCPUCORE
VCPUIO
V5S
GND
U305
CPU TCP320P
VSS
VCC
U2
VCC
VOUT
GND
LM45
R386
0
C425
1000p
CPU_TH
C39
C33
C15
C45
150u/6.3V x 4
C369
C386
1u/50V x 2
C368
C366
C384
C322
C321
C32
C358
C359
C360
C367
C396
C398
C399
C401
0.1u/25V x 14
C367
C365
C31
C323
C357
C361
C388
C397
C400
C402
0.1u/25V x 10
C362
C403
22u/10V x 2

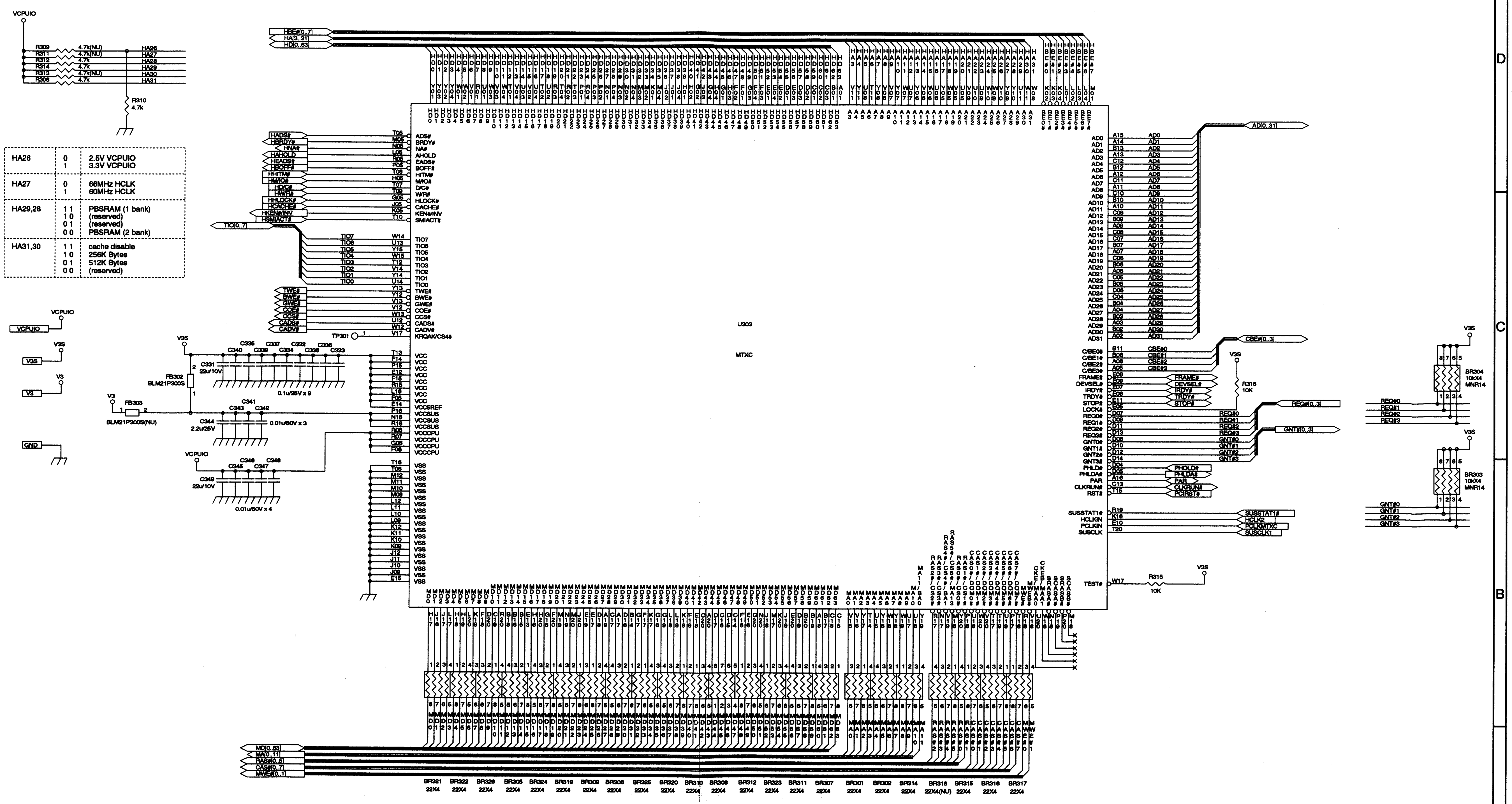
CACHE WRITE POLICY

| | | |
|---|---|---|
| WB/WT# | 0 | Write-Through |
| | 1 | Write-Back |

BUS FRACTION BIT

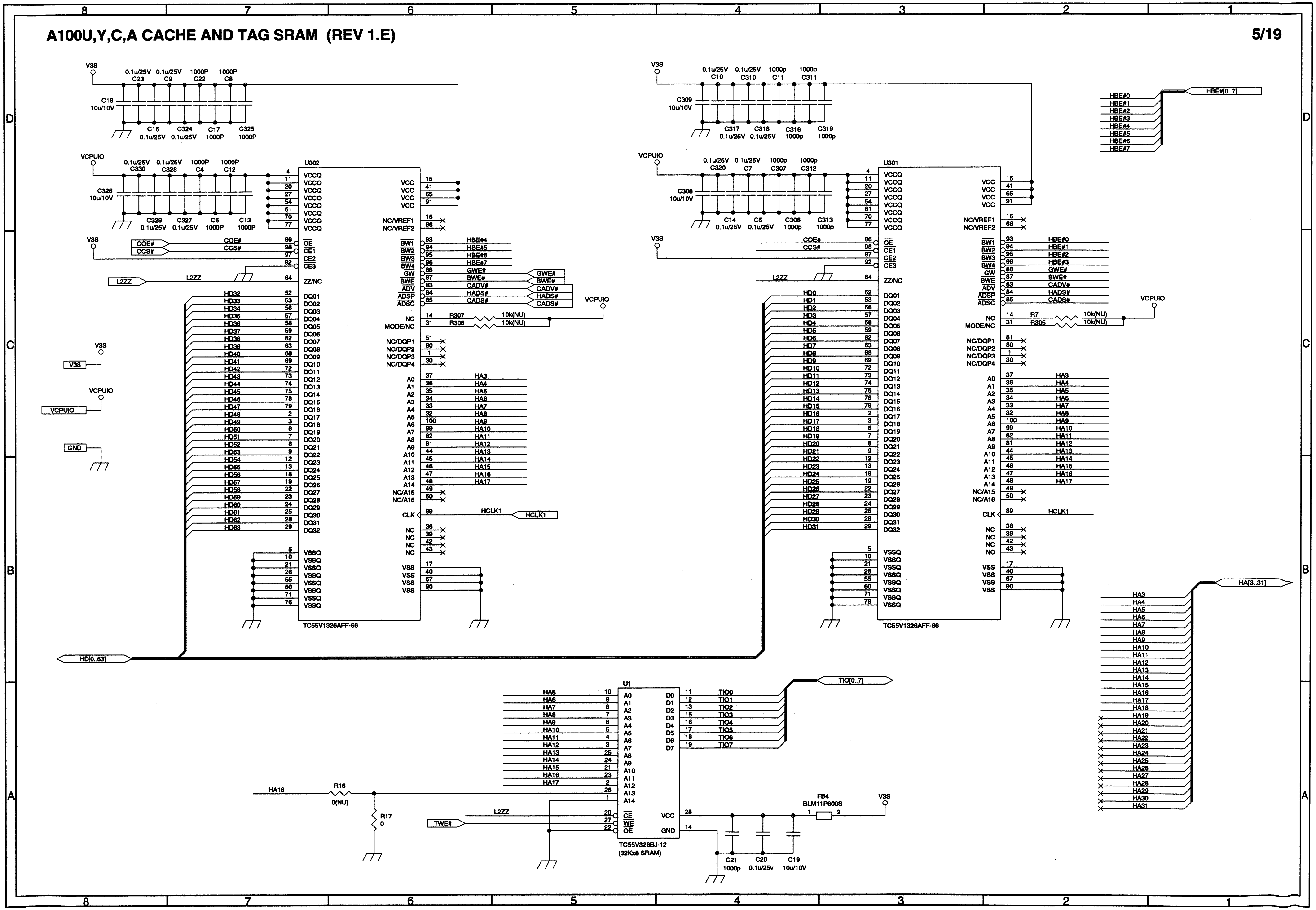
| BF2 BF1 BF0 | Fraction |
|---|---|
| 0 0 0 | 2/5 |
| 0 0 1 | 1/3 |
| 0 1 0 | 1/2 |
| 0 1 1 | 2/7 |
| 1 X X | Reserved |

# A100U,Y,C,A Northbridge (REV 1.E)


VCPUIO
R309
R311
R312
R314
R313
R308
4.7k(NU)
4.7k(NU)
4.7k
4.7k
4.7k(NU)
4.7k
HA26
HA27
HA28
HA29
HA30
HA31
R310
4.7k
HBE#[0..7]
HA[3..31]
HD[0..63]
TIO[0..7]
U303
MTXC
AD[0..31]
CBE#[0..3]
REQ#[0..3]
GNT#[0..3]
BR304
10KX4
MNR14
BR303
10KX4
MNR14
R316
10K
R315
10K
V3S
V3
VCPUIO
GND
FB302
BLM21P300S
FB303
BLM21P300S(NU)
C331
22u/10V
0.1u/25V x 9
C344
2.2u/25V
0.01u/50V x 3
C349
22u/10V
0.01u/50V x 4
TP301
MD[0..63]
MA[0..11]
RAS#[0..5]
CAS#[0..7]
MWE#[0..1]
SUSSTAT1#
HCLK2
PCLKMTXC
SUSCLK1
PHOLD#
PHLDA#
PAR
CLKRUN#
PCIRST#
FRAME#
DEVSEL#
IRDY#
TRDY#
STOP#
TEST#

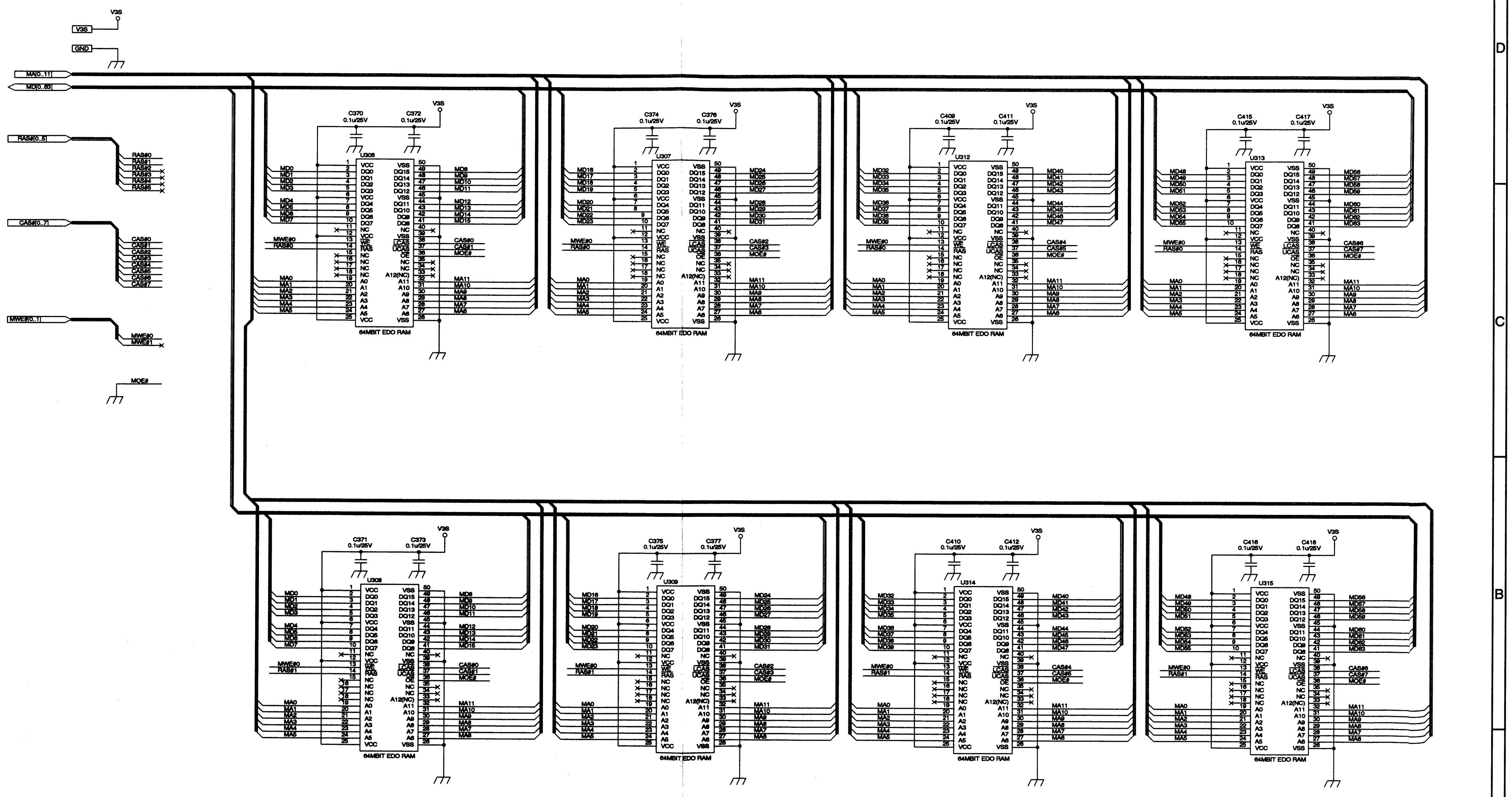
|  |  |  |
|---|---|---|
| HA26 | 0<br>1 | 2.5V VCPUIO<br>3.3V VCPUIO |
| HA27 | 0<br>1 | 66MHz HCLK<br>60MHz HCLK |
| HA29,28 | 1 1<br>1 0<br>0 1<br>0 0 | PBSRAM (1 bank)<br>(reserved)<br>(reserved)<br>PBSRAM (2 bank) |
| HA31,30 | 1 1<br>1 0<br>0 1<br>0 0 | cache disable<br>256K Bytes<br>512K Bytes<br>(reserved) |

# A100U,Y,C,A CACHE AND TAG SRAM (REV 1.E)


8
7
6
5
4
3
2
1
D
C
B
A
V3S
0.1u/25V C23
0.1u/25V C9
1000P C22
1000P C8
C18 10u/10V
C16 0.1u/25V
C324 0.1u/25V
C17 1000P
C325 1000P
VCPUIO
0.1u/25V C330
0.1u/25V C328
1000P C4
1000P C12
C326 10u/10V
C329 0.1u/25V
C327 0.1u/25V
C6 1000P
C13 1000P
U302
VCCQ
VCC
NC/VREF1
NC/VREF2
COE#
CCS#
OE
CE1
CE2
CE3
L2ZZ
ZZ/NC
BW1
BW2
BW3
BW4
GW
BWE
ADV
ADSP
ADSC
HBE#4
HBE#5
HBE#6
HBE#7
GWE#
BWE#
CADV#
HADS#
CADS#
NC
MODE/NC
R307 10k(NU)
R306 10k(NU)
NC/DQP1
NC/DQP2
NC/DQP3
NC/DQP4
HD32 … HD63
DQ01 … DQ32
A0 … A14
HA3 … HA17
NC/A15
NC/A16
CLK
HCLK1
VSSQ
VSS
TC55V1326AFF-66
V3S
VCPUIO
GND
HD[0..63]
V3S
0.1u/25V C10
0.1u/25V C310
1000p C11
1000p C311
C309 10u/10V
C317 0.1u/25V
C318 0.1u/25V
C316 1000p
C319 1000p
0.1u/25V C320
0.1u/25V C7
1000p C307
1000p C312
C308 10u/10V
C14 0.1u/25V
C5 0.1u/25V
C306 1000p
C313 1000p
U301
HD0 … HD31
HBE#0
HBE#1
HBE#2
HBE#3
R7 10k(NU)
R305 10k(NU)
TC55V1326AFF-66
HBE#[0..7]
HBE#0 … HBE#7
HA[3..31]
HA3 … HA31
U1
HA5 … HA17
A0 … A14
D0 … D7
TIO0 … TIO7
TIO[0..7]
HA18
R16 0(NU)
R17 0
L2ZZ
TWE#
CE
WE
OE
VCC
GND
TC55V328BJ-12
(32Kx8 SRAM)
FB4 BLM11P600S
V3S
C21 1000p
C20 0.1u/25v
C19 10u/10V

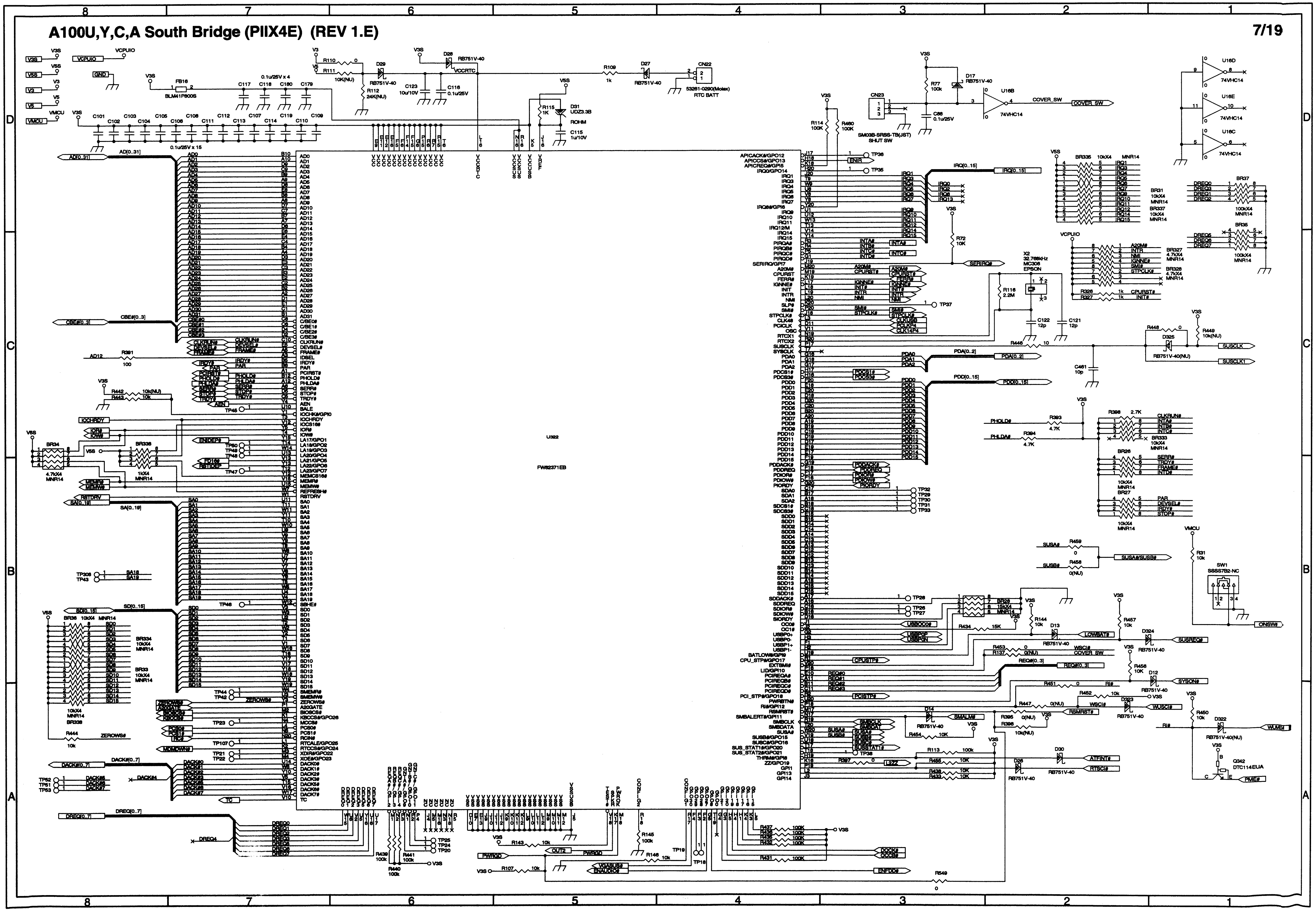
A-105.DSF

# A100U,Y,C,A MAIN MEMORY EDO 64MB (REV 1.E)


V3S
GND
MA[0..11]
MD[0..63]
RAS#[0..5]
RAS#0
RAS#1
RAS#2
RAS#3
RAS#4
RAS#5
CAS#[0..7]
CAS#0
CAS#1
CAS#2
CAS#3
CAS#4
CAS#5
CAS#6
CAS#7
MWE#[0..1]
MWE#0
MWE#1
MOE#
C370 0.1u/25V
C372 0.1u/25V
C374 0.1u/25V
C376 0.1u/25V
C409 0.1u/25V
C411 0.1u/25V
C415 0.1u/25V
C417 0.1u/25V
C371 0.1u/25V
C373 0.1u/25V
C375 0.1u/25V
C377 0.1u/25V
C410 0.1u/25V
C412 0.1u/25V
C416 0.1u/25V
C418 0.1u/25V
U306
U307
U312
U313
U308
U309
U314
U315
VCC
DQ0
DQ1
DQ2
DQ3
DQ4
DQ5
DQ6
DQ7
NC
WE
RAS
A0
A1
A2
A3
A4
A5
VSS
DQ15
DQ14
DQ13
DQ12
DQ11
DQ10
DQ9
DQ8
LCAS
UCAS
OE
A12(NC)
A11
A10
A9
A8
A7
A6
64MBIT EDO RAM

# A100U,Y,C,A South Bridge (PIIX4E) (REV 1.E)

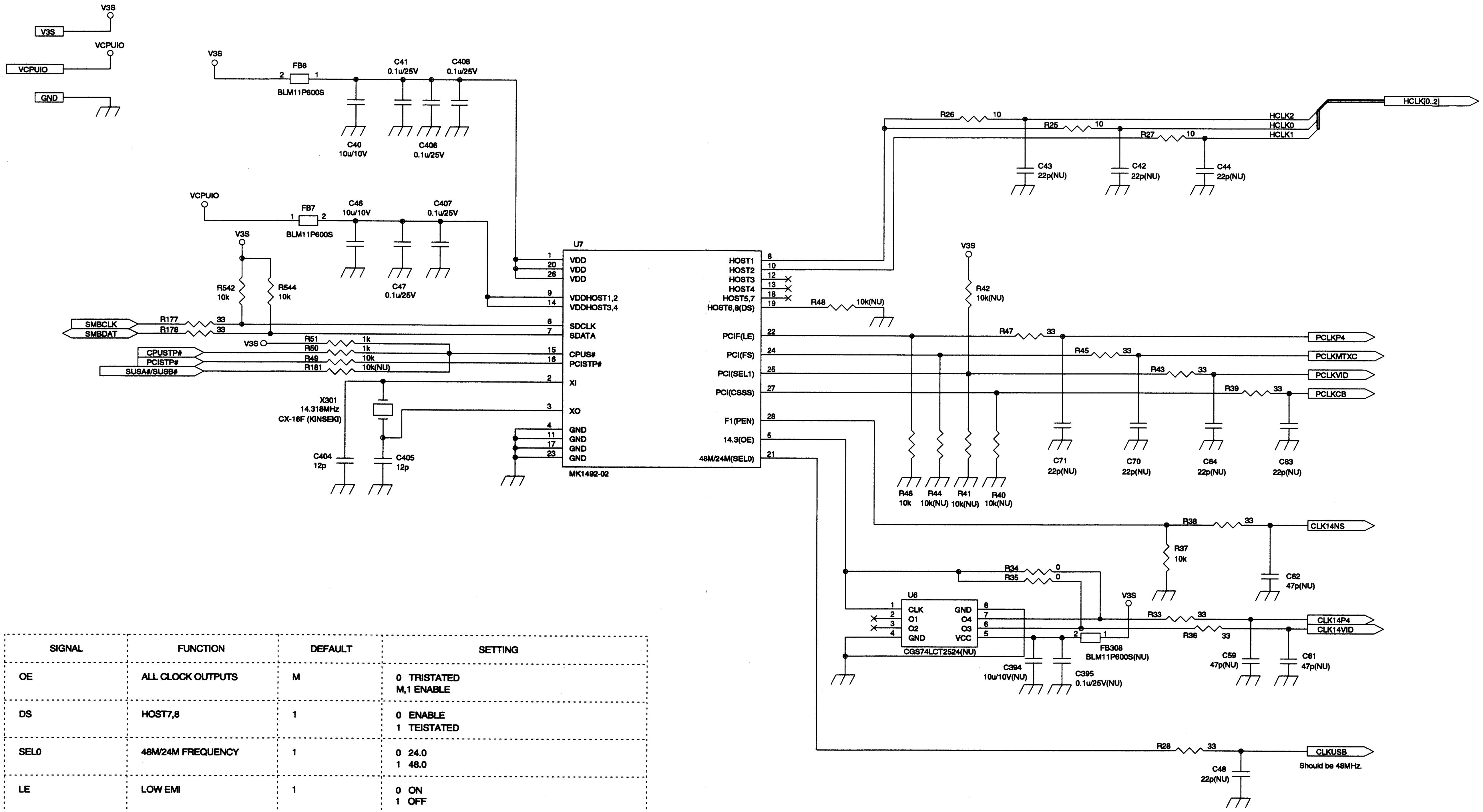
7/19



8
7
6
5
4
3
2
1
D
C
B
A
V3S
VCPUIO
V5S
V3
V5
VMCU
GND
FB16
BLM41P800S
R110
R111
10K(NU)
D29
RB751V-40
R112
24K(NU)
C123
10u/10V
C116
0.1u/25V
D28
RB751V-40
VCCRTC
R109
1k
D27
RB751V-40
CN22
53261-0290(Molex)
RTC BATT
R115
1K
D31
UDZ3.3B
ROHM
C115
1u/10V
0.1u/25V x 4
0.1u/25V x 15
AD[0..31]
CBE#[0..3]
SA[0..19]
SD[0..15]
DACK#[0..7]
DREQ[0..7]
U322
FW82371EB
IRQ[0..15]
PDA[0..2]
PDD[0..15]
REQ#[0..3]
CN23
SM03B-SRSS-TB(JST)
SHUT SW
R77
100k
C86
0.1u/25V
D17
RB751V-40
U16B
74VHC14
COVER_SW
U16D
U16E
U16C
X2
32.768kHz
MC306
EPSON
R116
2.2M
C122
12p
C121
12p
SUSCLK
SUSCLK1
D325
RB751V-40(NU)
SERIRQ#
LOWBAT#
SUSREQ#
SYSON#
WUSCI#
WUMSI
ONSW#
SW1
SSSS7B2-NC
Q342
DTC114EUA
PME#
ATFINT#
RTSCI#
DOCK#
OCCB#
ENFDD#
PWRGD
OUT2
VGASUS#
ENAUDIO#
CPUSTP#
PCISTP#
SMALM#
RSMRST#
SMBCLK
SMBDATA
SUSA#
SUSB#
SUSSTAT1#
L2ZZ
SUSA/SUSB#
ZEROWS#
RSTDRV
MEMR#
MEMW#
IOCHRDY
ENIDEP#
PDDACK#
PDDREQ
PDIOR#
PDIOW#
PIORDY
CLKRUN#
DEVSEL#
FRAME#
IRDY#
PAR
PCIRST#
PHOLD#
PHLDA#
SERR#
STOP#
TRDY#
AEN
A20M#
CPURST#
FERR#
IGNNE#
INIT#
INTR
NMI
SMI#
STPCLK#
CLKUSB
PCICLK
CLK14P4
USBOC0#
USBP0P
USBP0N
BR335
BR337
BR31
BR326
BR327
BR333
BR26
BR27
BR34
BR336
BR33
BR334
BR36
BR35
BR37
BR28

A-07.DSF

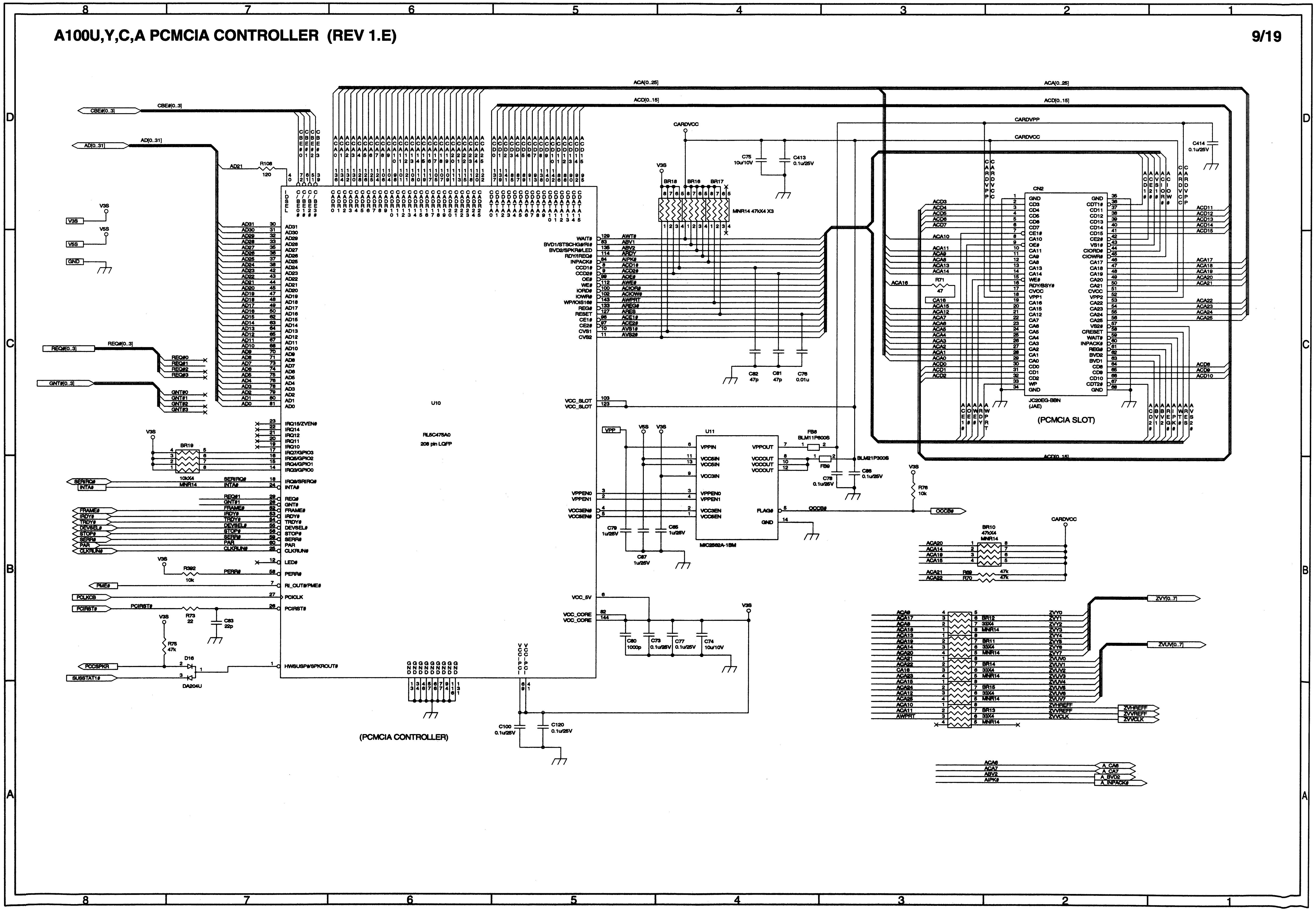
# A100U,Y,C,A CLOCK GENERATOR AND DRIVER (REV 1.E)


V3S
VCPUIO
GND
FB6
BLM11P600S
C41
0.1u/25V
C408
0.1u/25V
C40
10u/10V
C406
0.1u/25V
FB7
BLM11P600S
C46
10u/10V
C407
0.1u/25V
C47
0.1u/25V
R542
10k
R544
10k
SMBCLK
SMBDAT
R177
33
R178
33
R51
1k
R50
1k
R49
10k
R181
10k(NU)
CPUSTP#
PCISTP#
SUSA#/SUSB#
X301
14.318MHz
CX-16F (KINSEKI)
C404
12p
C405
12p
U7
VDD
VDD
VDD
VDDHOST1,2
VDDHOST3,4
SDCLK
SDATA
CPUS#
PCISTP#
XI
XO
GND
GND
GND
GND
MK1492-02
HOST1
HOST2
HOST3
HOST4
HOST5,7
HOST6,8(DS)
PCIF(LE)
PCI(FS)
PCI(SEL1)
PCI(CSSS)
F1(PEN)
14.3(OE)
48M/24M(SEL0)
R26
10
R25
10
R27
10
HCLK2
HCLK0
HCLK1
HCLK[0..2]
C43
22p(NU)
C42
22p(NU)
C44
22p(NU)
R48
10k(NU)
R42
10k(NU)
R47
33
R45
33
R43
33
R39
33
PCLKP4
PCLKMTXC
PCLKVID
PCLKCB
R46
10k
R44
10k(NU)
R41
10k(NU)
R40
10k(NU)
C71
22p(NU)
C70
22p(NU)
C64
22p(NU)
C63
22p(NU)
R38
33
CLK14NS
R37
10k
C62
47p(NU)
R34
0
R35
0
U6
CLK
O1
O2
GND
GND
O4
O3
VCC
CGS74LCT2524(NU)
FB308
BLM11P600S(NU)
C394
10u/10V(NU)
C395
0.1u/25V(NU)
R33
33
R36
33
CLK14P4
CLK14VID
C59
47p(NU)
C61
47p(NU)
R28
33
CLKUSB
C48
22p(NU)

Should be 48MHz.

| SIGNAL | FUNCTION | DEFAULT | SETTING |
|---|---|---|---|
| OE | ALL CLOCK OUTPUTS | M | 0 TRISTATED<br>M,1 ENABLE |
| DS | HOST7,8 | 1 | 0 ENABLE<br>1 TEISTATED |
| SEL0 | 48M/24M FREQUENCY | 1 | 0 24.0<br>1 48.0 |
| LE | LOW EMI | 1 | 0 ON<br>1 OFF |
| CPUS#/CSSS/FS | HOST/PCI FREQUENCY | 1/1/1 | 1/X/0 60.0(OE=M) 50.0(OE=1)<br>1/X/1 66.6(OE=M) 75.0(OE=1)<br>M/0/X 33.33(OE=M) 33.33(OE=1) |
| SEL1 | F1 FREQUENCY | M | 0 PCI<br>M 14.318<br>1 24.0 |
| PEN | PCIF ENABLE | M | 0 Pin25=PCI Pin24=PCI<br>M Pin25=PCI Pin24=PCIF<br>1 Pin25=PCIF Pin24=PCIF |

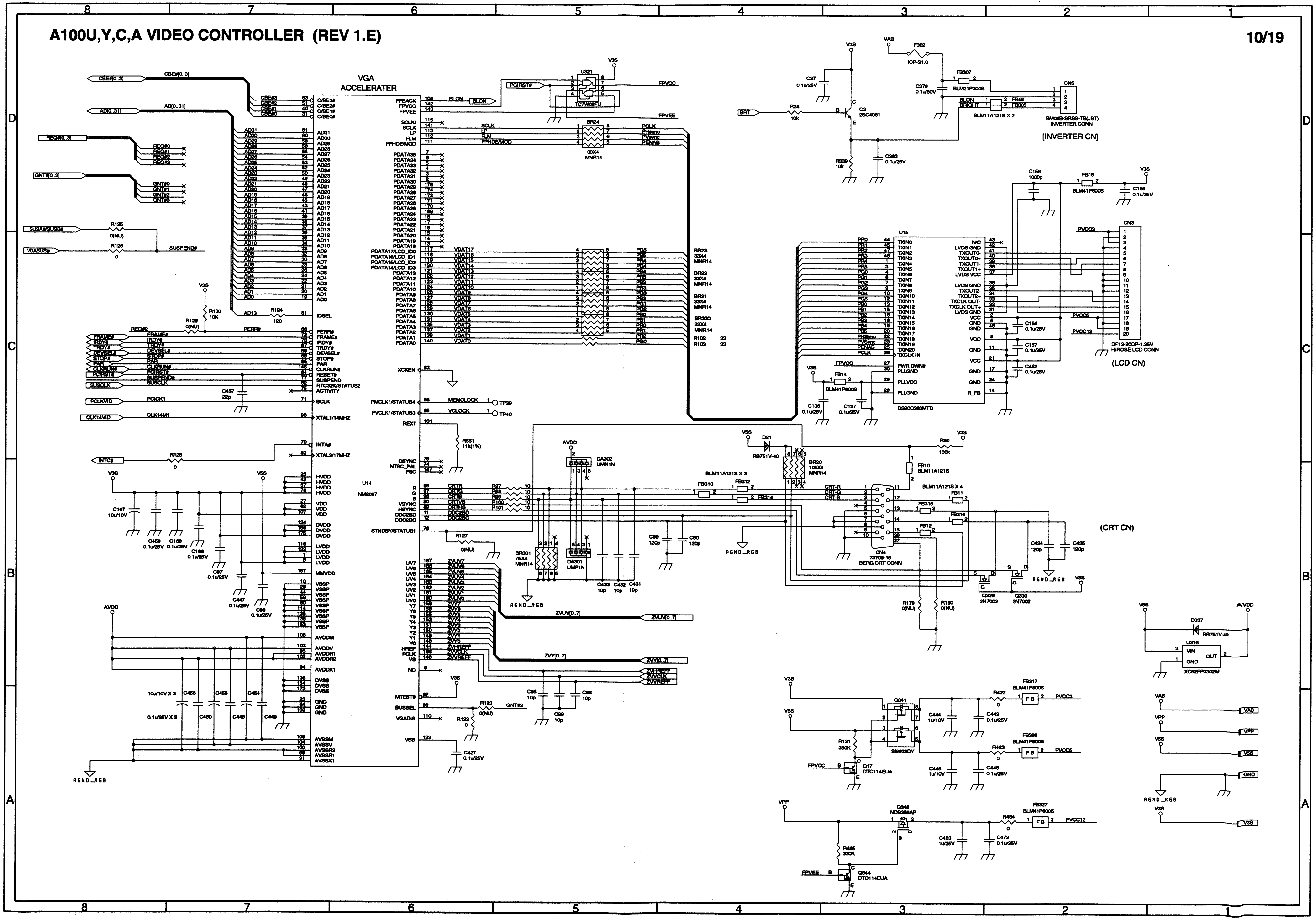
# A100U,Y,C,A PCMCIA CONTROLLER (REV 1.E)



CBE#[0..3]
AD[0..31]
AD21
R108
120
V3S
V5S
GND
REQ#[0..3]
REQ#0
REQ#1
REQ#2
REQ#3
GNT#[0..3]
GNT#0
GNT#1
GNT#2
GNT#3
BR19
10kX4
MNR14
SERIRQ#
INTA#
REQ#1
GNT#1
FRAME#
IRDY#
TRDY#
DEVSEL#
STOP#
SERR#
PAR
CLKRUN#
R392
10k
PERR#
PME#
PCLKCB
PCIRST#
R73
22
C83
22p
R75
47k
D16
DA204U
PCCSPKR
SUSSTAT1#
U10
RL5C475A0
208 pin LQFP
(PCMCIA CONTROLLER)
ACA[0..25]
ACD[0..15]
CARDVCC
CARDVPP
C75
10u/10V
C413
0.1u/25V
BR18
BR16
BR17
MNR14 47kX4 X3
C82
47p
C81
47p
C76
0.01u
VCC_SLOT
VPP
U11
VPPIN
VPPOUT
VCC5IN
VCC3IN
VCCOUT
VPPEN0
VPPEN1
VCC3EN
VCC5EN
FLAG#
MIC2562A-1BM
FB8
BLM11P600S
FB9
BLM21P300S
C78
0.1u/25V
C86
0.1u/25V
R76
10k
OCCB#
C79
1u/25V
C85
1u/25V
C87
1u/25V
VCC_5V
VCC_CORE
C80
1000p
C73
0.1u/25V
C77
0.1u/25V
C74
10u/10V
C100
0.1u/25V
C120
0.1u/25V
CN2
JC20EG-BBIN
(JAE)
(PCMCIA SLOT)
R71
47
C414
0.1u/25V
BR10
47kX4
MNR14
R69
R70
47k
ZVY[0..7]
ZVUV[0..7]
BR12
BR11
BR14
BR15
BR13
33X4
MNR14
ZVHREFF
ZVVREFF
ZVVCLK
A_CA6
A_CA7
A_BVD2
A_INPACK#

# A100U,Y,C,A VIDEO CONTROLLER (REV 1.E)

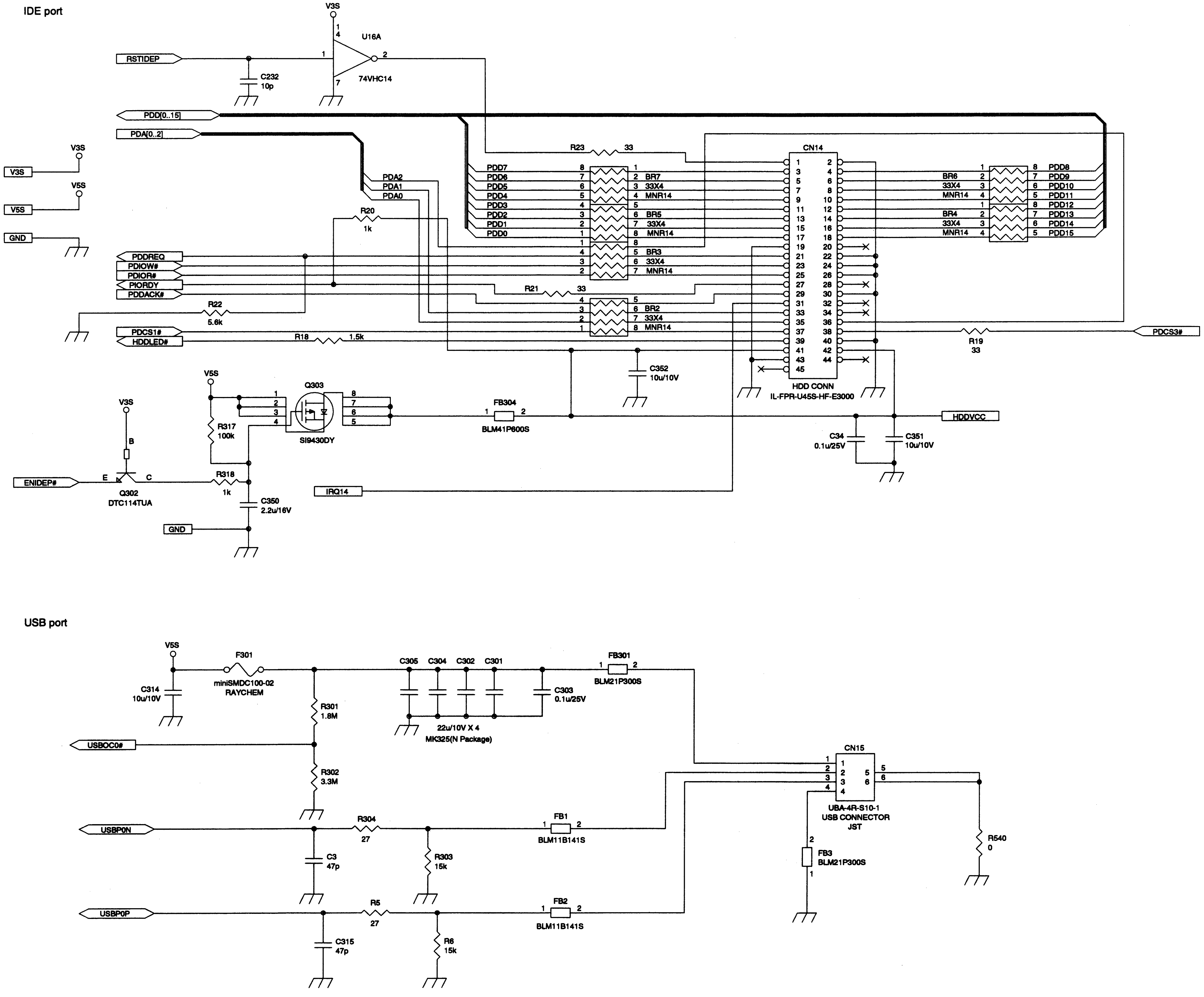
10/19



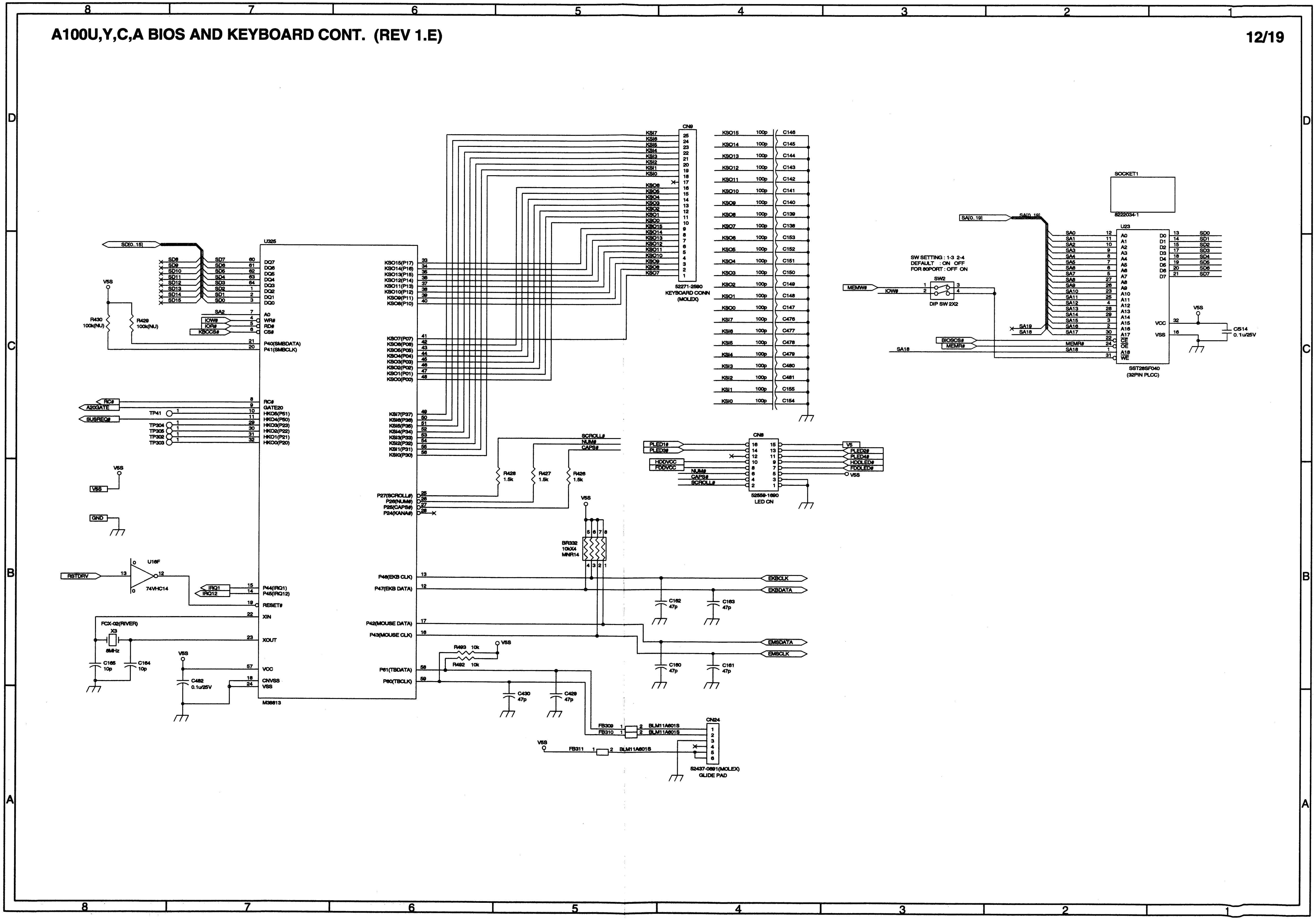
VGA ACCELERATER
U14
NM2097
CBE#[0..3]
AD[0..31]
REQ#[0..3]
GNT#[0..3]
SUSA#/SUSB#
VGASUS#
SUSPEND#
R125 0(NU)
R126 0
R130 10K
R129 0(NU)
R124 120
IDSEL
PERR#
FRAME#
IRDY#
TRDY#
DEVSEL#
STOP#
PAR
CLKRUN#
PCIRST#
SUSCLK
PCLKVID
CLK14VID
INTC#
R128 0
C457 22p
BCLK
XTAL1/14MHZ
INTA#
XTAL2/17MHZ
V3S
V5S
AVDD
C167 10u/10V
C459 0.1u/25V
C168 0.1u/25V
C166 0.1u/25V
C97 0.1u/25V
C447 0.1u/25V
C98 0.1u/25V
HVDD
VDD
DVDD
LVDD
MMVDD
VSSP
AVDDM
AVDDV
AVDDR1
AVDDR2
AVDDX1
DVSS
GND
AVSSM
AVSSV
AVSSR2
AVSSR1
AVSSX1
10u/10V X 3
0.1u/25V X 3
C458
C465
C454
C450
C448
C449
AGND_RGB
U321
TC7W08FU
FPBACK
FPVCC
FPVEE
BLON
SCLK
LP
FLM
FPHDE/MOD
BR24 33X4 MNR14
PCLK
PHsync
PVsync
PENAB
PDATA35 … PDATA0
VDAT17 … VDAT0
BR23 33X4 MNR14
BR22 33X4 MNR14
BR21 33X4 MNR14
BR330 33X4 MNR14
R102 33
R103 33
XCKEN
PMCLK1/STATUS4
PVCLK1/STATUS3
MEMCLOCK
VCLOCK
TP39
TP40
REXT
R551 11k(1%)
CSYNC
NTSC_PAL
FSC
R G B VSYNC HSYNC DDC2BD DDC2BC
CRTR CRTG CRTB CRTVS CRTHS
R97 R98 R99 R100 R101 10
STNDBY/STATUS1
R127 0(NU)
AVDD
DA302 UMN1N
DA301 UMP1N
BR331 75X4 MNR14
C433 10p
C432 10p
C431 10p
C89 120p
C90 120p
UV7 … UV0
Y7 … Y0
HREF PCLK VS
ZVUV[0..7]
ZVY[0..7]
ZVHREFF
ZVVCLK
ZVVREFF
NC
MTEST#
BUSSEL
VGADIS
VBB
R123 0(NU)
R122 0
GNT#2
C95 10p
C96 10p
C99 10p
C427 0.1u/25V
V3S
VAB
F302 ICP-S1.0
C37 0.1u/25V
FB307 BLM21P300S
C379 0.1u/50V
CN5 BM04B-SRSS-TB(JST) INVERTER CONN
[INVERTER CN]
BLON
BRIGHT
FB48
FB305
BLM11A121S X 2
BRT
R24 10k
Q2 2SC4081
R339 10k
C383 0.1u/25V
C158 1000p
FB15 BLM41P600S
C159 0.1u/25V
U15
DS90C363MTD
TXIN0 … TXIN20
TXCLK IN
PWR DWN
PLLGND
PLLVCC
LVDS GND
TXOUT0- TXOUT0+ TXOUT1- TXOUT1+ TXOUT2- TXOUT2+
TXCLK OUT- TXCLK OUT+
LVDS VCC
R_FB
PVCC3
PVCC5
PVCC12
C156 0.1u/25V
C157 0.1u/25V
C462 0.1u/25V
FB14 BLM41P600S
C136 0.1u/25V
C137 0.1u/25V
CN3 DF13-20DP-1.25V HIROSE LCD CONN
(LCD CN)
D21 RB751V-40
BR20 10kX4 MNR14
R80 100k
FB10 BLM11A121S
BLM11A121S X 3
FB313 FB312 FB314
BLM11A121S X 4
FB11 FB315 FB316 FB12
CRT-R CRT-G CRT-B
CN4 73709-15 BERG CRT CONN
(CRT CN)
C434 120p
C435 120p
Q329 2N7002
Q330 2N7002
R179 0(NU)
R180 0(NU)
D337 RB751V-40
U316 XC62FP3302M
VIN OUT GND
FB317 BLM41P600S
FB326 BLM41P600S
FB327 BLM41P600S
Q341 SI9933DY
R422 0
R423 0
R484 0
C444 1u/10V
C443 0.1u/25V
C445 1u/10V
C446 0.1u/25V
R121 330K
Q17 DTC114EUA
FPVCC
VPP
Q348 NDS356AP
C453 1u/25V
C472 0.1u/25V
R485 330K
Q344 DTC114EUA
FPVEE
VAB VPP V5S V3S GND

A-C10.DSF

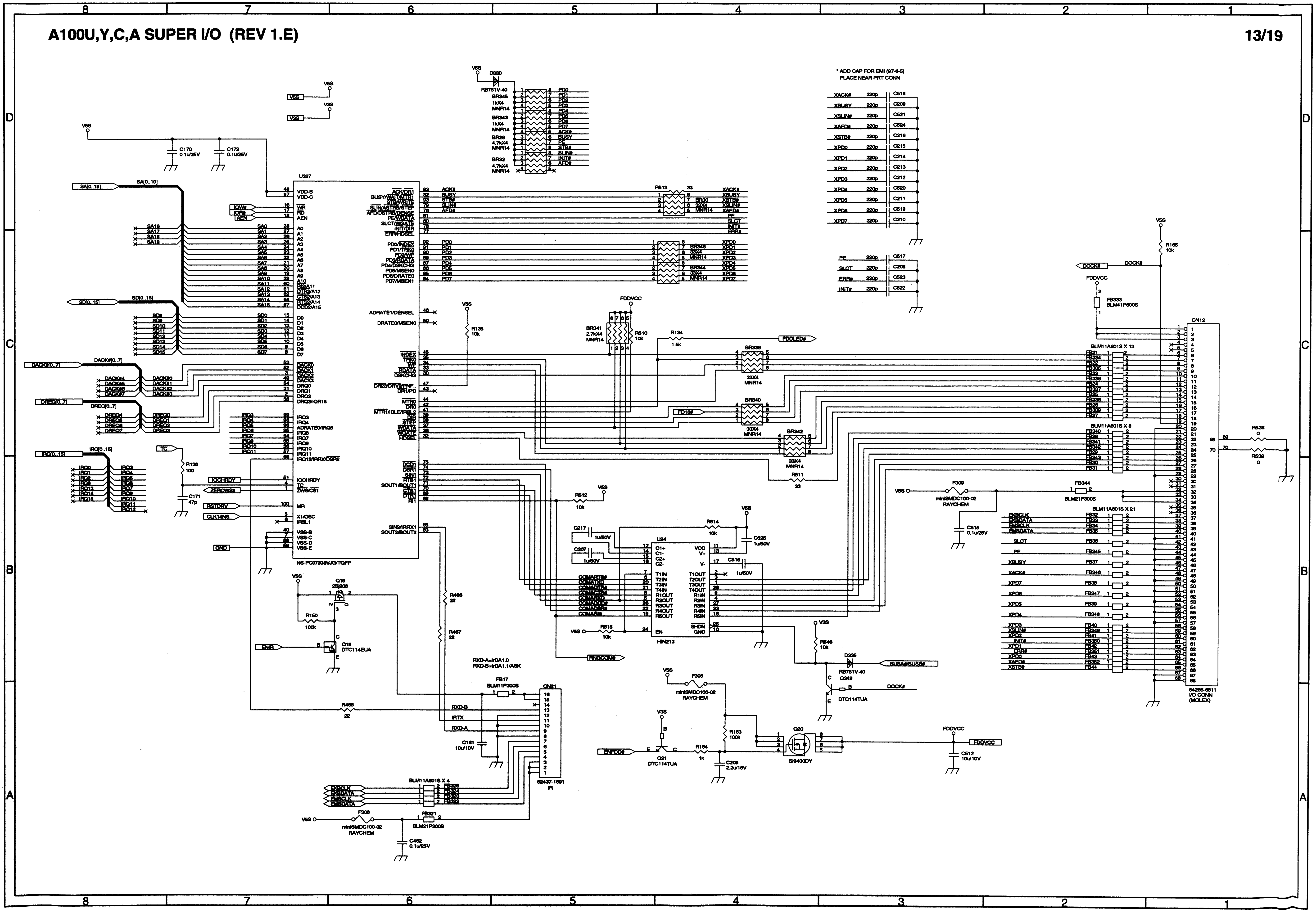
# A100U,Y,C,A IDE/USB INTERFACE (REV 1.E)


IDE port
V3S
U16A
74VHC14
RSTIDEP
C232
10p
PDD[0..15]
PDA[0..2]
V3S
V5S
GND
PDA2
PDA1
PDA0
R20
1k
R23 33
PDD7
PDD6
PDD5
PDD4
PDD3
PDD2
PDD1
PDD0
BR7
33X4
MNR14
BR5
33X4
MNR14
BR3
33X4
MNR14
BR2
33X4
MNR14
PDDREQ
PDIOW#
PDIOR#
PIORDY
PDDACK#
R21 33
R22
5.6k
PDCS1#
HDDLED#
R18 1.5k
CN14
HDD CONN
IL-FPR-U45S-HF-E3000
BR6
33X4
MNR14
BR4
33X4
MNR14
PDD8
PDD9
PDD10
PDD11
PDD12
PDD13
PDD14
PDD15
PDCS3#
R19
33
C352
10u/10V
V5S
Q303
SI9430DY
R317
100k
FB304
BLM41P600S
HDDVCC
C34
0.1u/25V
C351
10u/10V
V3S
ENIDEP#
Q302
DTC114TUA
R318
1k
C350
2.2u/16V
IRQ14
GND
USB port
V5S
F301
miniSMDC100-02
RAYCHEM
C314
10u/10V
C305
C304
C302
C301
22u/10V X 4
MK325(N Package)
C303
0.1u/25V
FB301
BLM21P300S
R301
1.8M
USBOC0#
R302
3.3M
CN15
UBA-4R-S10-1
USB CONNECTOR
JST
FB3
BLM21P300S
R540
0
USBP0N
R304
27
FB1
BLM11B141S
C3
47p
R303
15k
USBP0P
R5
27
FB2
BLM11B141S
C315
47p
R6
15k

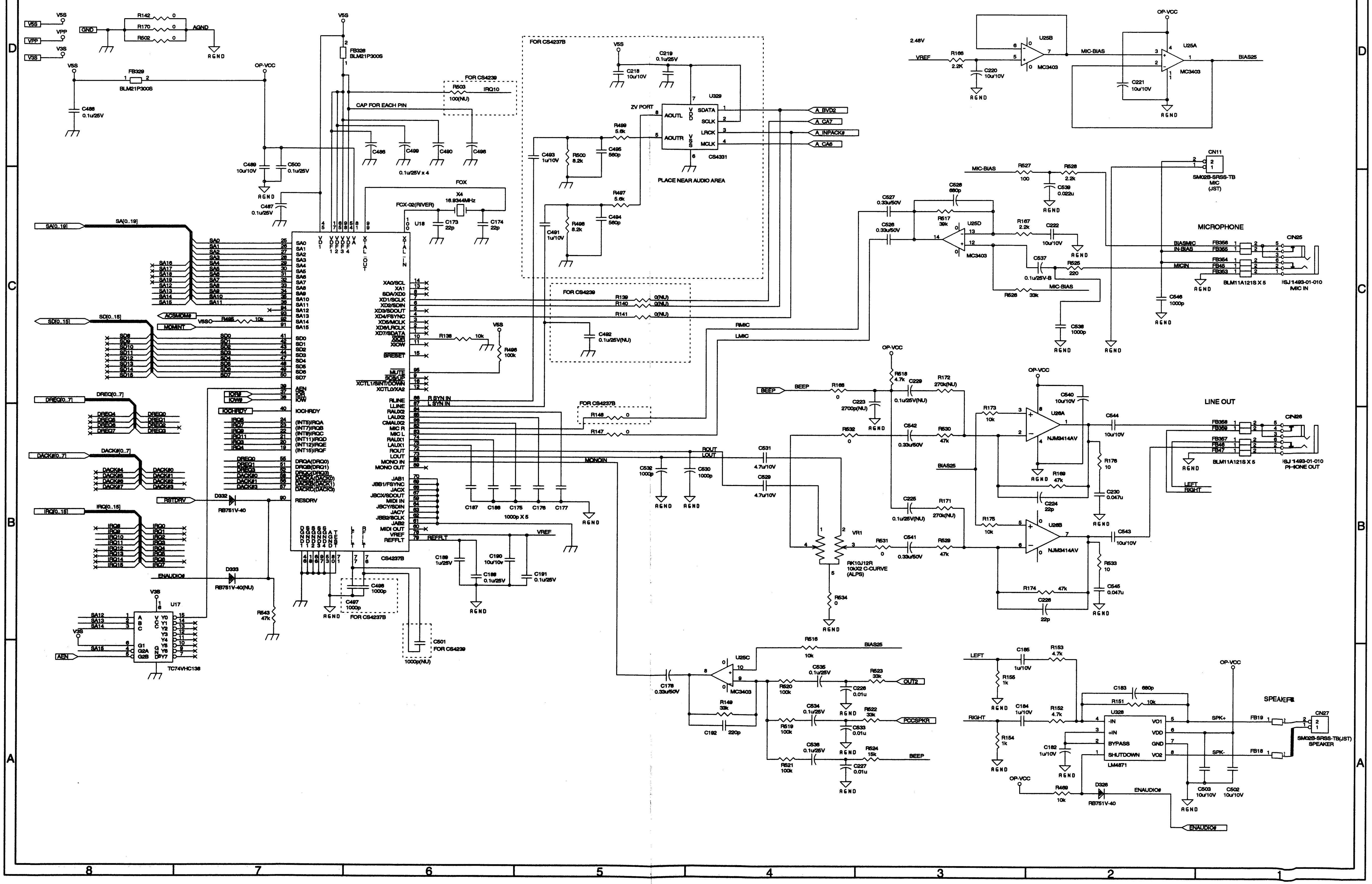
# A100U,Y,C,A BIOS AND KEYBOARD CONT. (REV 1.E)


8
7
6
5
4
3
2
1
D
C
B
A
U325
M38813
SD[0..15]
SD8
SD9
SD10
SD11
SD12
SD13
SD14
SD15
SD7
SD6
SD5
SD4
SD3
SD2
SD1
SD0
DQ7
DQ6
DQ5
DQ4
DQ3
DQ2
DQ1
DQ0
SA2
A0
IOW#
IOR#
KBCCS#
WR#
RD#
CS#
V5S
R430
100k(NU)
R429
100k(NU)
P40(SMBDATA)
P41(SMBCLK)
RC#
A20GATE
SUSREQ#
GATE20
TP41
TP304
TP305
TP302
TP303
HKO5(P51)
HKO4(P50)
HKO3(P23)
HKO2(P22)
HKO1(P21)
HKO0(P20)
V5S
GND
RSTDRV
U16F
74VHC14
IRQ1
IRQ12
P44(IRQ1)
P45(IRQ12)
RESET#
XIN
XOUT
FCX-02(RIVER)
X3
8MHz
C165
10p
C164
10p
C482
0.1u/25V
VCC
CNVSS
VSS
KSO15(P17)
KSO14(P16)
KSO13(P15)
KSO12(P14)
KSO11(P13)
KSO10(P12)
KSO9(P11)
KSO8(P10)
KSO7(P07)
KSO6(P06)
KSO5(P05)
KSO4(P04)
KSO3(P03)
KSO2(P02)
KSO1(P01)
KSO0(P00)
KSI7(P37)
KSI6(P36)
KSI5(P35)
KSI4(P34)
KSI3(P33)
KSI2(P32)
KSI1(P31)
KSI0(P30)
P27(SCROLL#)
P26(NUM#)
P25(CAPS#)
P24(KANA#)
P46(EKB CLK)
P47(EKB DATA)
P42(MOUSE DATA)
P43(MOUSE CLK)
P61(TBDATA)
P60(TBCLK)
CN9
52271-2590
KEYBOARD CONN
(MOLEX)
KSO15 100p C146
KSO14 100p C145
KSO13 100p C144
KSO12 100p C143
KSO11 100p C142
KSO10 100p C141
KSO9 100p C140
KSO8 100p C139
KSO7 100p C138
KSO6 100p C153
KSO5 100p C152
KSO4 100p C151
KSO3 100p C150
KSO2 100p C149
KSO1 100p C148
KSO0 100p C147
KSI7 100p C476
KSI6 100p C477
KSI5 100p C478
KSI4 100p C479
KSI3 100p C480
KSI2 100p C481
KSI1 100p C155
KSI0 100p C154
SCROLL#
NUM#
CAPS#
R428
1.5k
R427
1.5k
R426
1.5k
BR332
10kX4
MNR14
EKBCLK
EKBDATA
C162
47p
C163
47p
EMSDATA
EMSCLK
C160
47p
C161
47p
R493 10k
R492 10k
C430
47p
C429
47p
FB309
FB310
FB311
BLM11A601S
CN24
52437-0691(MOLEX)
GLIDE PAD
CN8
52559-1690
LED CN
PLED1#
PLED3#
HDDVCC
FDDVCC
V5
PLED2#
PLED4#
HDDLED#
FDDLED#
SOCKET1
8222034-1
SA[0..19]
SW SETTING : 1-3 2-4
DEFAULT : ON OFF
FOR 80PORT : OFF ON
SW2
DIP SW 2X2
MEMW#
IOW#
SA19
SA18
BIOSCS#
MEMR#
U23
SST28SF040
(32PIN PLCC)
SA0
SA1
SA2
SA3
SA4
SA5
SA6
SA7
SA8
SA9
SA10
SA11
SA12
SA13
SA14
SA15
SA16
SA17
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
A13
A14
A15
A16
A17
CE
OE
A18
WE
D0
D1
D2
D3
D4
D5
D6
D7
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
VCC
VSS
C514
0.1u/25V

# A100U,Y,C,A SUPER I/O (REV 1.E)

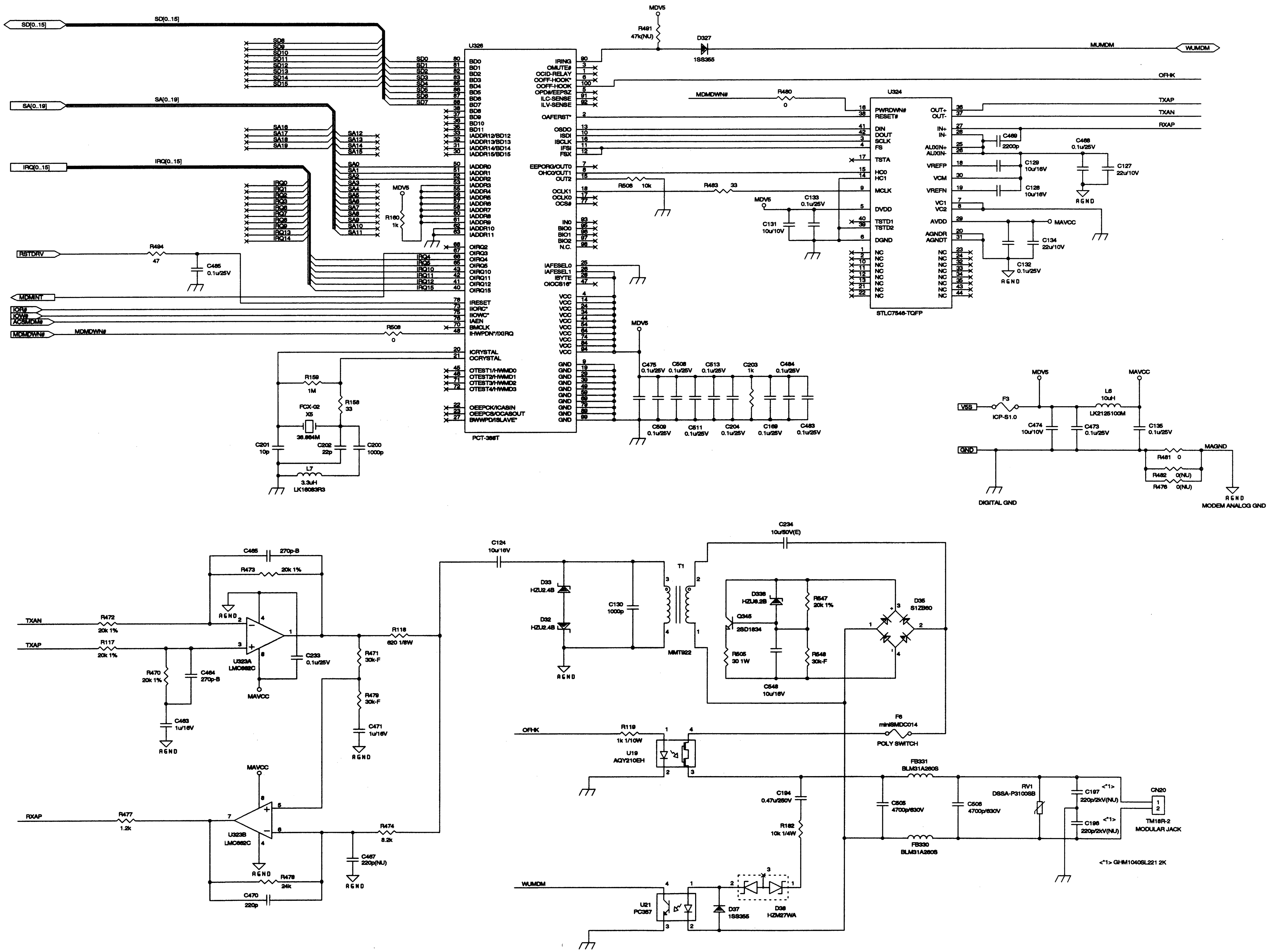

8
7
6
5
4
3
2
1
D
C
B
A
U327
NS-PC87338VJG/TQFP
VDD-B
VDD-C
WR
RD
AEN
A0
A10
D0
D7
DACK0
DRQ0
IRQ3
IRQ4
IOCHRDY
TC
ZWS/CS1
MR
X1/OSC
IRSL1
VSS-B
VSS-C
VSS-D
VSS-E
SA[0..19]
SD[0..15]
DACK#[0..7]
DREQ[0..7]
IRQ[0..15]
IOW#
IOR#
AEN
IOCHRDY
ZEROWS#
RSTDRV
CLK14NS
GND
V5S
V3S
C170
0.1u/25V
C172
0.1u/25V
R136
100
C171
47p
D330
RB751V-40
BR345
BR343
BR29
BR32
R513
33
ACK#
BUSY
STB#
SLIN#
AFD#
PE
SLCT
INIT#
ERR#
PD0
PD7
XPD0
XPD7
BR346
BR344
33X4
MNR14
* ADD CAP FOR EMI (97-6-5)
PLACE NEAR PRT CONN
XACK#
XBUSY
XSLIN#
XAFD#
XSTB#
220p
C518
C209
C521
C524
C216
C215
C214
C213
C212
C520
C211
C519
C210
C517
C208
C523
C522
ADRATE1/DENSEL
DRATE0/MSEN0
INDEX
TRK0
WP
RDATA
DSKCHG
MTR0
DR0
DIR
STEP
WDATA
WGATE
HDSEL
FDDVCC
BR341
2.7kX4
MNR14
R510
10k
R134
1.5k
FDDLED#
BR339
BR340
BR342
FD16#
R135
10k
R511
33
R512
10k
DCD1
DSR1
SIN1
RTS1
SOUT1/BOUT1
CTS1
DTR1
RI1
SIN2/IRRX1
SOUT2/IBOUT2
U24
HIN213
C1+
C1-
C2+
C2-
VCC
V+
V-
T1IN
T2IN
T3IN
T4IN
R1OUT
R2OUT
R3OUT
R4OUT
R5OUT
T1OUT
T2OUT
T3OUT
T4OUT
R1IN
R2IN
R3IN
R4IN
R5IN
EN
SHDN
GND
C217
1u/50V
C207
1u/50V
R514
10k
C525
1u/50V
C516
1u/50V
R515
10k
RINGCOM#
Q19
2SJ208
R150
100k
Q18
DTC114EUA
ENIR
R466
22
R467
22
R468
22
RXD-A=IrDA1.0
RXD-B=IrDA1.1/ASK
FB17
BLM11P300S
CN21
82437-1691
IR
RXD-B
IRTX
RXD-A
C161
10u/10V
BLM11A601S X 4
EKBCLK
EKBDATA
EMSCLK
EMSDATA
FB325
FB324
FB323
FB322
F305
miniSMDC100-02
RAYCHEM
FB321
BLM21P300S
C462
0.1u/25V
V3S
R546
10k
D335
RB751V-40
SUSA#/SUSB#
Q349
DTC114TUA
DOCK#
F306
miniSMDC100-02
RAYCHEM
R163
100k
Q21
DTC114TUA
ENFDD#
R164
1k
C206
2.2u/16V
Q20
SI9430DY
C512
10u/10V
FDDVCC
R165
10k
DOCK#
FB333
BLM41P600S
BLM11A601S X 13
BLM11A601S X 8
BLM11A601S X 21
F309
miniSMDC100-02
RAYCHEM
C515
0.1u/25V
FB344
BLM21P300S
R538
0
R539
0
CN12
54265-6811
I/O CONN
(MOLEX)

# A100U,Y,C,A AUDIO CONTROLLER (REV 1.E)


V5S
VPP
V3S
GND
AGND
R142 0
R170 0
R502 0
FB329 BLM21P300S
OP-VCC
C488 0.1u/25V
FB326 BLM21P300S
FOR CS4239
R503 100(NU)
IRQ10
CAP FOR EACH PIN
C486
C499
C490
C498
0.1u/25V x 4
C489 10u/10V
C500 0.1u/25V
C487 0.1u/25V
FOX
X4 16.9344MHz
FCX-02(RIVER)
U18
C173 22p
C174 22p
SA[0..19]
SD[0..15]
ACSMDM#
MDMINT
V5SO
R495 10k
DREQ[0..7]
DACK#[0..7]
IRQ[0..15]
IOCHRDY
RSTDRV
D332 RB751V-40
RESDRV
ENAUDIO#
D333 RB751V-40(NU)
R543 47k
U17
TC74VHC138
SA12
SA13
SA14
SA15
AEN
CS4237B
C497 1000p
C496 1000p
FOR CS4237B
C501 FOR CS4239 1000p(NU)
R138 10k
R496 100k
BRESET
MUTE
XCTL1/SINT/DOWN
XCTL0/XA2
RLINE
LLINE
R SYN IN
L SYN IN
MONO IN
MONO OUT
VREF
REFFLT
C187
C188
C175
C176
C177
1000p X 5
C189 1u/25V
C190 10u/10V
C188 0.1u/25V
C191 0.1u/25V
FOR CS4237B
V5S
C218 10u/10V
C219 0.1u/25V
ZV PORT
U329
CS4331
AOUTL
AOUTR
SDATA
SCLK
LRCK
MCLK
R499 5.6k
R497 5.6k
C493 1u/10V
R500 8.2k
C495 560p
C491 1u/10V
R498 8.2k
C494 560p
PLACE NEAR AUDIO AREA
A_BVD2
A_CA7
A_INPACK#
A_CA6
FOR CS4239
R139 0(NU)
R140 0(NU)
R141 0(NU)
C492 0.1u/25V(NU)
RMIC
LMIC
FOR CS4237B
R146 0
R147 0
MONOIN
ROUT
LOUT
2.48V
VREF
R166 2.2K
C220 10u/10V
U25B
MC3403
MIC-BIAS
U25A
C221 10u/10V
BIAS25
MIC-BIAS
R527 100
R528 2.2k
C539 0.022u
CN11
SM02B-SRSS-TB MIC (JST)
C528 680p
C527 0.33u/50V
C526 0.33u/50V
R517 39k
U25D
MC3403
R167 2.2k
C222 10u/10V
C537 0.1u/25V-B
R525 220
R526 33k
C538 1000p
C546 1000p
MICROPHONE
BIASMIC
IN-BIAS
MICIN
FB356
FB355
FB354
FB45
FB353
CN25
BLM11A121S X 5
HSJ1493-01-010 MIC IN
OP-VCC
R518 4.7k
C229 0.1u/25V(NU)
R172 270k(NU)
BEEP
R168 0
C223 2700p(NU)
R532 0
C542 0.33u/50V
R530 47k
R173 10k
U26A
NJM3414AV
C540 10u/10V
C544 10u/10V
R176 10
C230 0.047u
R169 47k
C224 22p
LINE OUT
FB358
FB359
FB357
FB46
FB47
CN26
BLM11A121S X 5
HSJ1493-01-010 PHONE OUT
LEFT
RIGHT
BIAS25
C532 1000p
C530 1000p
C531 4.7u/10V
C529 4.7u/10V
C225 0.1u/25V(NU)
R171 270k(NU)
R175 10k
U26B
NJM3414AV
C543 10u/10V
R533 10
C545 0.047u
R174 47k
C226 22p
VR1
RK10J12R 10kX2 C-CURVE (ALPS)
R531 0
C541 0.33u/50V
R529 47k
R534 0
R516 10k
BIAS25
U25C
MC3403
C178 0.33u/50V
C535 0.1u/25V
R523 33k
OUT2
R520 100k
C228 0.01u
R149 33k
C192 220p
C534 0.1u/25V
R522 33k
PCCSPKR
R519 100k
C533 0.01u
C536 0.1u/25V
R524 15k
BEEP
R521 100k
C227 0.01u
LEFT
C185 1u/10V
R153 4.7k
R155 1k
C183 680p
R151 10k
RIGHT
C184 1u/10V
R152 4.7k
R154 1k
U328
LM4871
-IN
+IN
BYPASS
SHUTDOWN
VO1
VDD
GND
VO2
C182 1u/10V
SPK+
SPK-
FB19
FB18
SPEAKER
CN27
SM02B-SRSS-TB(JST) SPEAKER
C503 10u/10V
C502 10u/10V
OP-VCC
R469 10k
D326 RB751V-40
ENAUDIO#
AGND

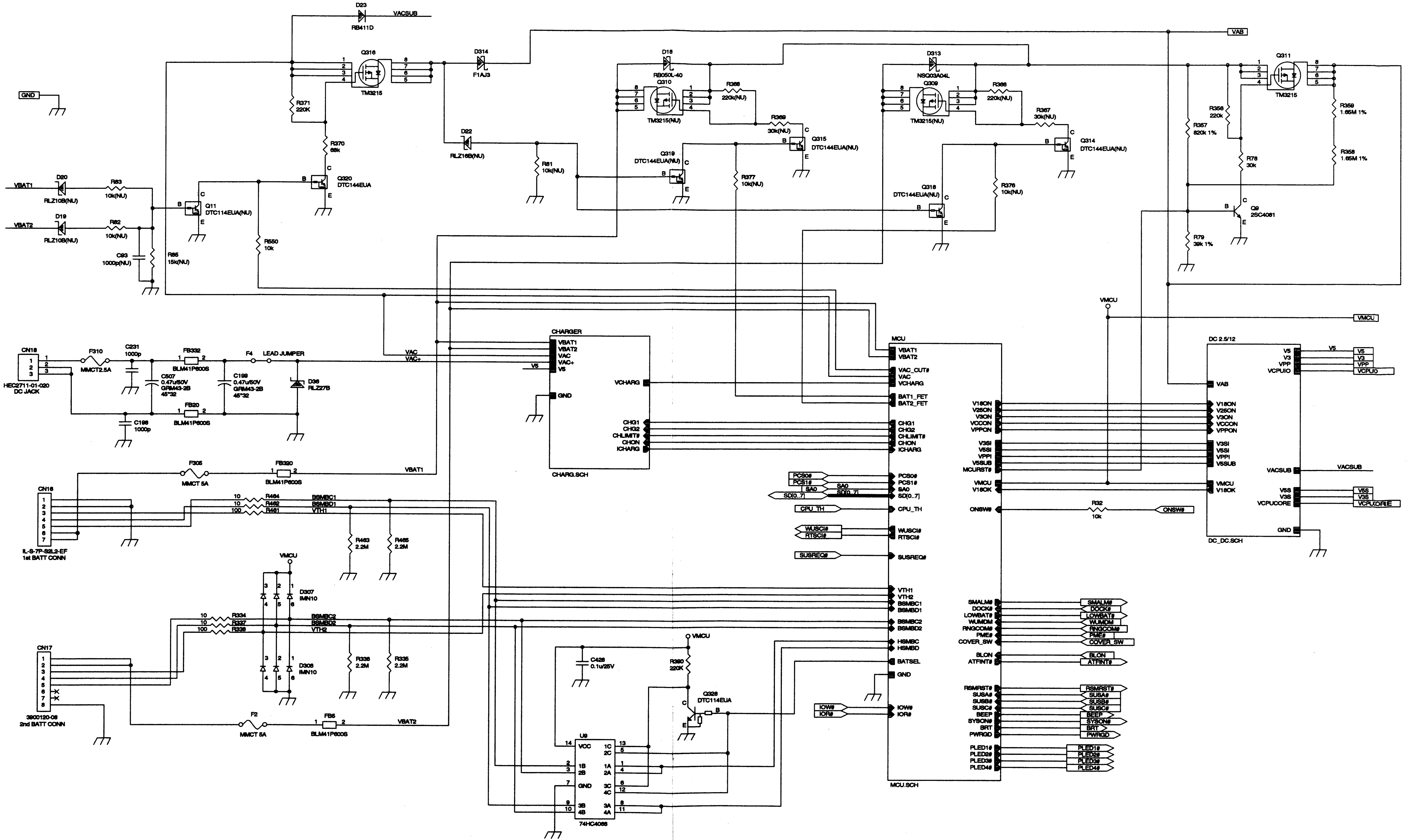
A-C14.DSF

# A100U,Y,C,A 56k/SOFT MODEM (REV 1.E)


8
7
6
5
4
3
2
1
D
C
B
A
SD[0..15]
SA[0..19]
IRQ[0..15]
RSTDRV
MDMINT
IOR#
IOW#
ACSMDM#
MDMDWN#
U326
PCT-388T
BD0
BD1
BD2
BD3
BD4
BD5
BD6
BD7
BD8
BD9
BD10
BD11
IADDR12/BD12
IADDR13/BD13
IADDR14/BD14
IADDR15/BD15
IADDR0
IADDR1
IADDR2
IADDR3
IADDR4
IADDR5
IADDR6
IADDR7
IADDR8
IADDR9
IADDR10
IADDR11
OIRQ2
OIRQ3
OIRQ4
OIRQ5
OIRQ10
OIRQ11
OIRQ12
OIRQ15
IRESET
IIORC*
IIOWC*
IAEN
BMCLK
IHWPDN*/IXIRQ
ICRYSTAL
OCRYSTAL
OTEST1/HWMD0
OTEST2/HWMD1
OTEST3/HWMD2
OTEST4/HWMD3
OEEPCK/ICASIN
OEEPCS/OCASOUT
BWWPD/ISLAVE*
IRING
OMUTE#
OCID-RELAY
OOFF-HOOK*
OOFF-HOOK
OPDN/EEPSZ
ILC-SENSE
ILV-SENSE
OAFERST*
OSDO
ISDI
ISCLK
IFSI
FSX
EEPORG/OUT0
OHCO/OUT1
OUT2
OCLK1
OCLKO
OCS#
IN0
BIO0
BIO1
BIO2
N.C.
IAFESEL0
IAFESEL1
IBYTE
OIOCS16*
VCC
GND
MDV5
R491
47k(NU)
D327
1SS355
MUMDM
WUMDM
OFHK
MDMDWN#
R480
0
U324
STLC7546-TQFP
PWRDWN#
RESET#
DIN
DOUT
SCLK
FS
TSTA
HC0
HC1
MCLK
DVDD
TSTD1
TSTD2
DGND
NC
OUT+
OUT-
IN+
IN-
AUXIN+
AUXIN-
VREFP
VCM
VREFN
VC1
VC2
AVDD
AGNDR
AGNDT
TXAP
TXAN
RXAP
C489
2200p
C488
0.1u/25V
C127
22u/10V
C129
10u/16V
C128
10u/16V
AGND
R506
10k
R483
33
C133
0.1u/25V
C131
10u/10V
MAVCC
C134
22u/10V
C132
0.1u/25V
R494
47
C485
0.1u/25V
R508
0
MDV5
R160
1k
R159
1M
R158
33
FCX-02
X5
36.864M
C201
10p
C202
22p
C200
1000p
L7
3.3uH
LK16083R3
C475
0.1u/25V
C508
0.1u/25V
C513
0.1u/25V
C203
1k
C484
0.1u/25V
C509
0.1u/25V
C511
0.1u/25V
C204
0.1u/25V
C169
0.1u/25V
C483
0.1u/25V
V5S
F3
ICP-S1.0
L6
10uH
LK2125100M
C474
10u/10V
C473
0.1u/25V
C135
0.1u/25V
GND
R481 0
R482 0(NU)
R476 0(NU)
MAGND
DIGITAL GND
MODEM ANALOG GND
C465
270p-B
R473
20k 1%
TXAN
R472
20k 1%
TXAP
R117
20k 1%
U323A
LMC662C
C233
0.1u/25V
R470
20k 1%
C464
270p-B
C463
1u/16V
R118
620 1/8W
R471
30k-F
R479
30k-F
C471
1u/16V
MAVCC
RXAP
R477
1.2k
U323B
LMC662C
R474
8.2k
C467
220p(NU)
R478
24k
C470
220p
C124
10u/16V
D33
HZU2.4B
D32
HZU2.4B
C130
1000p
T1
MMT922
C234
10u/50V(E)
D336
HZU6.2B
R647
20k 1%
Q345
2SD1834
R505
30 1W
R648
30k-F
C548
10u/16V
D35
S1ZB60
OFHK
R119
1k 1/10W
U19
AQY210EH
F6
miniSMDC014
POLY SWITCH
FB331
BLM31A260S
FB330
BLM31A260S
C194
0.47u/250V
R182
10k 1/4W
C505
4700p/630V
C506
4700p/630V
RV1
DSSA-P3100SB
C197
220p/2kV(NU)
C196
220p/2kV(NU)
<*1>
CN20
TM18R-2
MODULAR JACK
<*1> GHM1040SL221 2K
WUMDM
U21
PC357
D37
1SS355
D38
HZM27WA

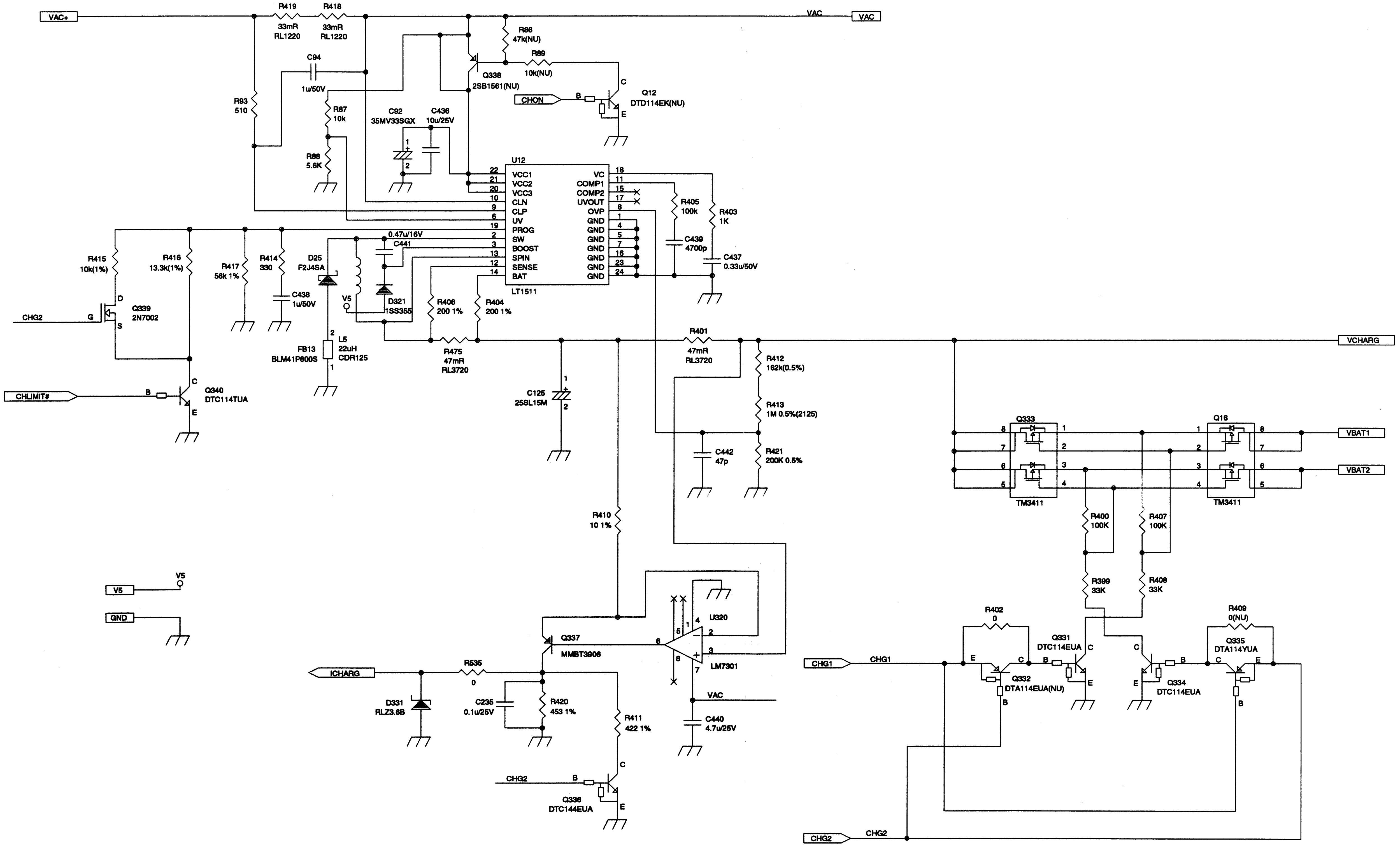
# A100U,Y,C,A CHARGER MAIN (REV 1.E)

16/19

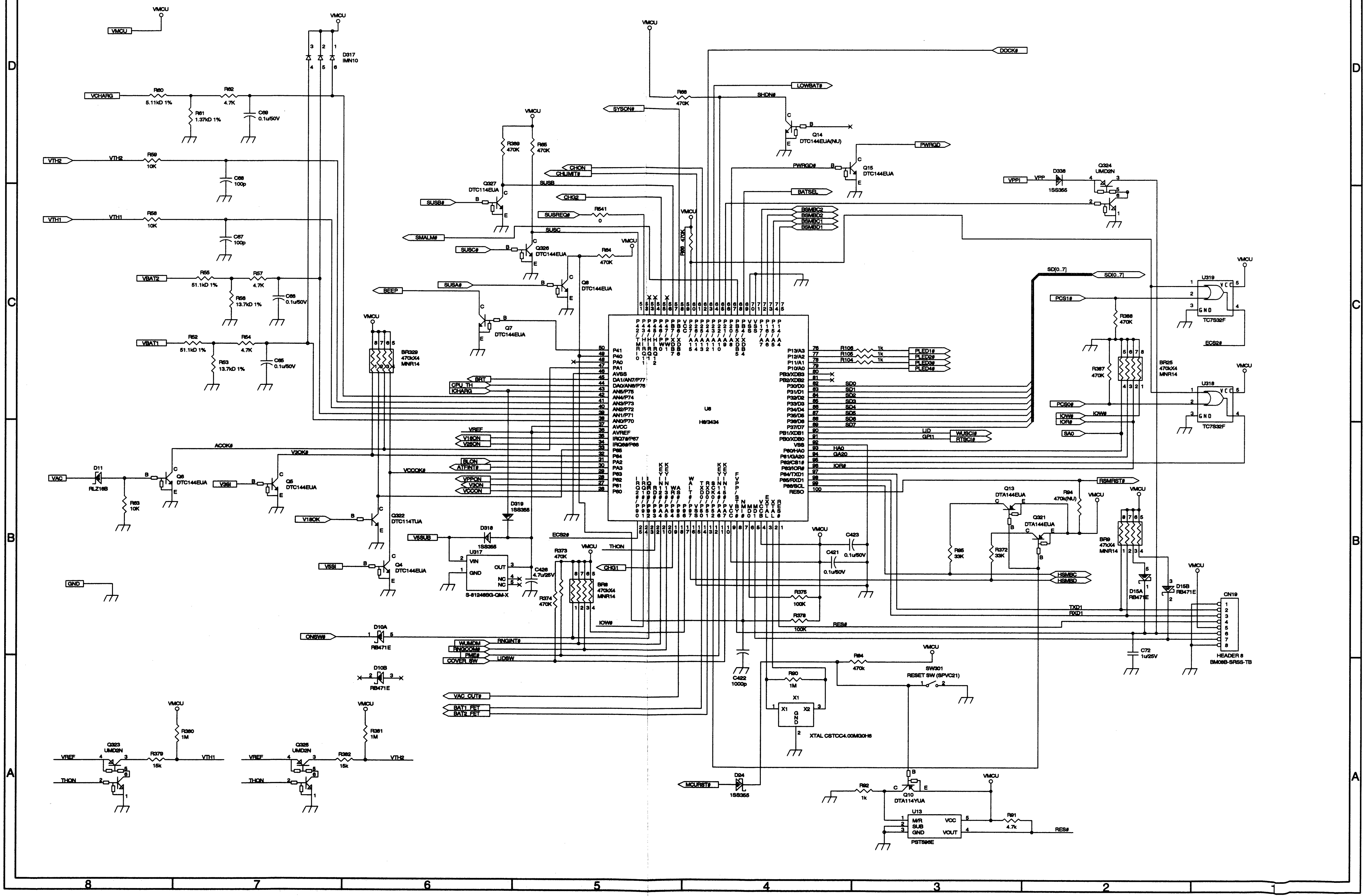

D23
RB411D
VACSUB
Q316
TM3215
R371
220K
R370
68k
Q320
DTC144EUA
D314
F1AJ3
D22
RLZ16B(NU)
R81
10k(NU)
GND
VBAT1
D20
RLZ10B(NU)
R83
10k(NU)
VBAT2
D19
RLZ10B(NU)
R82
10k(NU)
C93
1000p(NU)
R85
15k(NU)
Q11
DTC114EUA(NU)
R550
10k
D18
RB050L-40
Q310
TM3215(NU)
R368
220k(NU)
R369
30k(NU)
Q315
DTC144EUA(NU)
Q319
DTC144EUA(NU)
R377
10k(NU)
D313
NSQ03A04L
Q309
TM3215(NU)
R366
220k(NU)
R367
30k(NU)
Q314
DTC144EUA(NU)
Q318
DTC144EUA(NU)
R376
10k(NU)
VAB
Q311
TM3215
R356
220k
R357
820k 1%
R78
30k
R359
1.65M 1%
R358
1.65M 1%
Q9
2SC4081
R79
39k 1%
VMCU
CN18
HEC2711-01-020
DC JACK
F310
MMCT2.5A
C231
1000p
FB332
BLM41P600S
C507
0.47u/50V
GRM43-2B
45*32
C199
0.47u/50V
GRM43-2B
45*32
F4
LEAD JUMPER
D36
RLZ27B
C198
1000p
FB20
BLM41P600S
VAC
VAC+
V5
CHARGER
VBAT1
VBAT2
VAC
VAC+
V5
VCHARG
GND
CHG1
CHG2
CHLIMIT#
CHON
ICHARG
CHARG.SCH
F305
MMCT 5A
FB320
BLM41P600S
VBAT1
CN16
IL-S-7P-S2L2-EF
1st BATT CONN
R464 10
R462 10
R461 100
BSMBC1
BSMBD1
VTH1
R463
2.2M
R465
2.2M
VMCU
D307
IMN10
R334 10
R337 10
R338 100
BSMBC2
BSMBD2
VTH2
D308
IMN10
R336
2.2M
R335
2.2M
CN17
3900120-08
2nd BATT CONN
F2
MMCT 5A
FB5
BLM41P600S
VBAT2
C428
0.1u/25V
VMCU
R390
220K
Q328
DTC114EUA
U9
74HC4066
VCC
GND
1C
2C
1B
2B
1A
2A
3C
4C
3B
4B
3A
4A
MCU
VBAT1
VBAT2
VAC_CUT#
VAC
VCHARG
BAT1_FET
BAT2_FET
CHG1
CHG2
CHLIMIT#
CHON
ICHARG
PCS0#
PCS1#
SA0
SD[0..7]
CPU_TH
WUSCI#
RTSCI#
SUSREQ#
VTH1
VTH2
BSMBC1
BSMBD1
BSMBC2
BSMBD2
HSMBC
HSMBD
BATSEL
GND
IOW#
IOR#
V18ON
V25ON
V3ON
VCCON
VPPON
V3SI
V5SI
VPPI
V5SUB
MCURST#
VMCU
V18OK
ONSW#
R32
10k
SMALM#
DOCK#
LOWBAT#
WUMDM
RNGCOM#
PME#
COVER_SW
BLON
ATFINT#
RSMRST#
SUSA#
SUSB#
SUSC#
BEEP
SYSON#
BRT
PWRGD
PLED1#
PLED2#
PLED3#
PLED4#
MCU.SCH
DC 2.5/12
V5
V3
VPP
VCPUIO
VAB
V18ON
V25ON
V3ON
VCCON
VPPON
V3SI
V5SI
VPPI
V5SUB
VMCU
V18OK
VACSUB
V5S
V3S
VCPUCORE
GND
DC_DC.SCH

A-C16.DSF

# A100U,Y,C,A SMART CHARGER (REV 1.E)

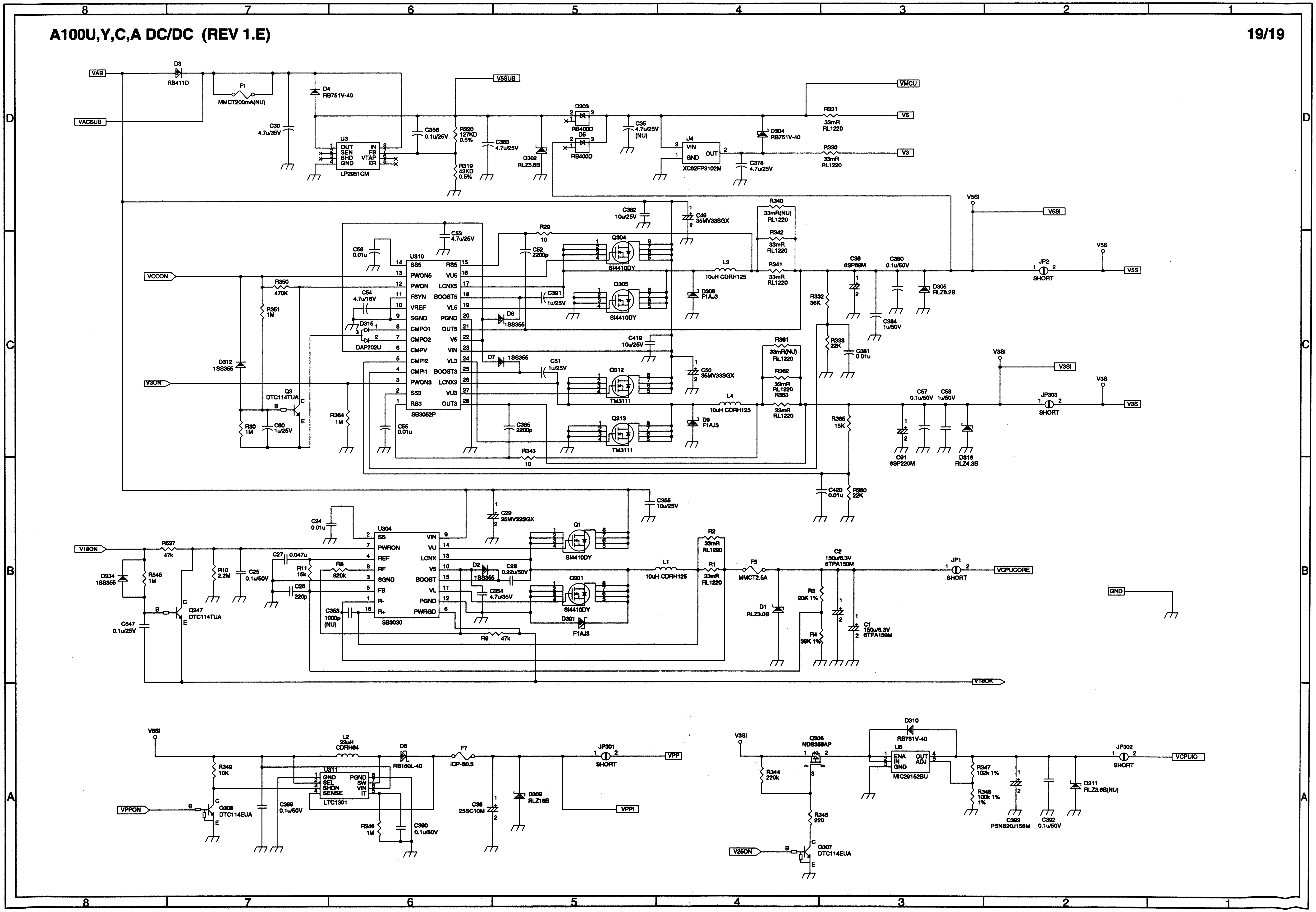

VAC+
R419
33mR
RL1220
R418
33mR
RL1220
VAC
VAC
R86
47k(NU)
R89
10k(NU)
C94
1u/50V
Q338
2SB1561(NU)
C
B
E
CHON
Q12
DTD114EK(NU)
R93
510
R87
10k
R88
5.6K
C92
35MV33SGX
C436
10u/25V
U12
LT1511
VCC1
VCC2
VCC3
CLN
CLP
UV
PROG
SW
BOOST
SPIN
SENSE
BAT
VC
COMP1
COMP2
UVOUT
OVP
GND
R405
100k
R403
1K
C439
4700p
C437
0.33u/50V
0.47u/16V
C441
R415
10k(1%)
R416
13.3k(1%)
R417
56k 1%
R414
330
C438
1u/50V
D25
F2J4SA
V5
D321
1SS355
R406
200 1%
R404
200 1%
CHG2
G
D
S
Q339
2N7002
FB13
BLM41P600S
L5
22uH
CDR125
R475
47mR
RL3720
R401
47mR
RL3720
VCHARG
R412
162k(0.5%)
R413
1M 0.5%(2125)
R421
200K 0.5%
C442
47p
C125
25SL15M
CHLIMIT#
Q340
DTC114TUA
Q333
TM3411
Q16
TM3411
VBAT1
VBAT2
R400
100K
R407
100K
R399
33K
R408
33K
R410
10 1%
V5
GND
U320
LM7301
Q337
MMBT3906
R535
0
ICHARG
D331
RLZ3.6B
C235
0.1u/25V
R420
453 1%
R411
422 1%
C440
4.7u/25V
Q336
DTC144EUA
R402
0
Q331
DTC114EUA
Q332
DTA114EUA(NU)
Q334
DTC114EUA
R409
0(NU)
Q335
DTA114YUA
CHG1
CHG1
CHG2
CHG2

# A100U,Y,C,A MCU H8/3434 (REV 1.E)


VMCU
VCHARG
R60 5.11kΩ 1%
R62 4.7K
R61 1.37kΩ 1%
C69 0.1u/50V
D317 IMN10
VTH2
R59 10K
C68 100p
VTH1
R58 10K
C67 100p
VBAT2
R55 51.1kΩ 1%
R57 4.7K
R56 13.7kΩ 1%
C66 0.1u/50V
VBAT1
R52 51.1kΩ 1%
R54 4.7K
R53 13.7kΩ 1%
C65 0.1u/50V
BEEP
BR329 470Kx4 MNR14
VAC
D11 RLZ16B
R63 10K
Q6 DTC144EUA
ACOK#
V3OK#
V3SI
Q5 DTC144EUA
VCCOK#
V18OK
Q322 DTC114TUA
V5SUB
D318 1SS355
D319 1SS355
U317 S-81248SG-QM-X
C426 4.7u/25V
V5SI
Q4 DTC144EUA
GND
ONSW#
D10A RB471E
D10B RB471E
Q323 UMD2N
R379 15k
R380 1M
VREF
THON
Q325 UMD2N
R382 15k
R381 1M
SUSB#
Q327 DTC114EUA
R389 470K
R65 470K
SUSB
CHON
CHLIMIT#
CHG32
SUSREQ#
R541 0
SMALM#
SUSC#
Q326 DTC144EUA
SUSC
R64 470K
SUSA#
Q8 DTC144EUA
Q7 DTC144EUA
BRT
CPU_TH
ICHARG
VREF
V18ON
V25ON
BLON
ATFINT#
VPPON
V3ON
VCCON
WUMDM
RNGCOM#
PME#
COVER_SW
RNGINT#
LIDSW
VAC_CUT#
BAT1_FET
BAT2_FET
ECS2#
R373 470K
R374 470K
BR8 470Kx4 MNR14
CHG1
IOW#
C422 1000p
SYSON#
R66 470K
SHDN#
LOWBAT#
DOCK#
Q14 DTC144EUA(NU)
PWRGD#
Q15 DTC144EUA
PWRGD
BATSEL
BSMBC2
BSMBD2
BSMBC1
BSMBD1
R95 470K
U8
H8/3434
R106 1k
R105 1k
R104 1k
PLED1#
PLED2#
PLED3#
PLED4#
SD[0..7]
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
LID
GPI1
WUSCI#
RTSCI#
HA0
GA20
IOR#
RSMRST#
VPPI
VPP
D338 1SS355
Q324 UMD2N
U319 TC7S32F
PCS1#
R388 470K
R387 470K
BR25 470Kx4 MNR14
ECS2#
U318 TC7S32F
PCS0#
IOW#
IOR#
SA0
Q13 DTA144EUA
R94 470k(NU)
Q321 DTA144EUA
R95 33K
R372 33K
BR9 47Kx4 MNR14
D15A RB471E
D15B RB471E
HSMBC
HSMBD
TXD1
RXD1
CN19
HEADER 8 BM08B-SRSS-TB
C72 1u/25V
C423 0.1u/50V
C421 0.1u/50V
R375 100K
R376 100K
RES#
R84 470k
SW301 RESET SW (SPVC21)
R90 1M
X1
XTAL CSTCC4.00MG0H6
MCURST#
D24 1SS355
R92 1k
Q10 DTA114YUA
U13 PST596E
R91 4.7k
RES#

A-C18.DSF

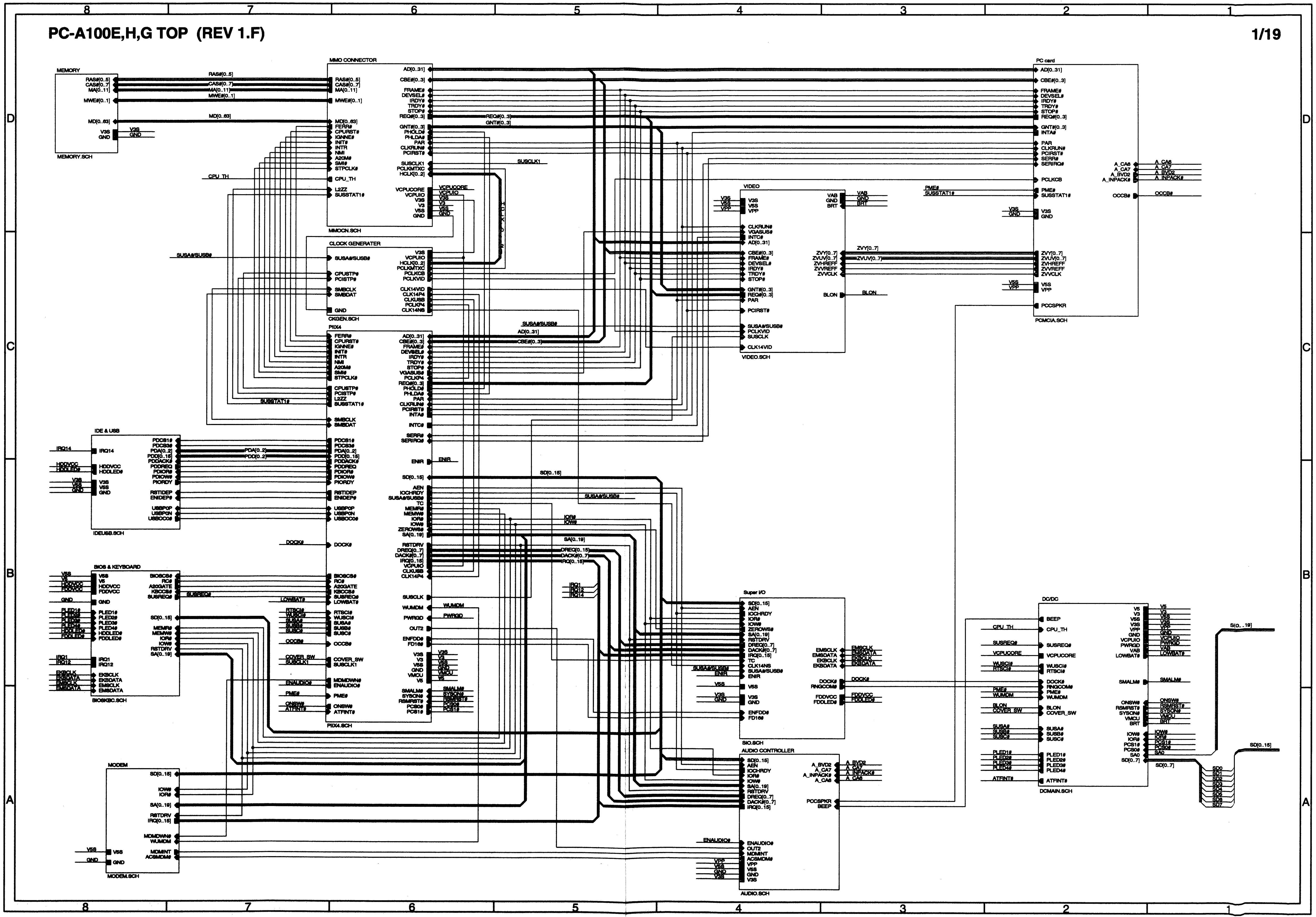
# A100U,Y,C,A DC/DC (REV 1.E)


8
7
6
5
4
3
2
1
D
C
B
A
VAB
VACSUB
D3
RB411D
F1
MMCT200mA(NU)
C30
4.7u/35V
D4
RB751V-40
U3
OUT
SEN
SHD
GND
IN
FB
VTAP
ER
LP2951CM
V5SUB
C356
0.1u/25V
R320
127KD
0.5%
R319
43KD
0.5%
C363
4.7u/25V
D302
RLZ5.6B
D303
RB400D
D5
RB400D
C35
4.7u/25V
(NU)
U4
VIN
GND
OUT
XC62FP3102M
C378
4.7u/25V
D304
RB751V-40
VMCU
R331
33mR
RL1220
V5
R330
33mR
RL1220
V3
V5SI
C382
10u/25V
C49
35MV33SGX
R340
33mR(NU)
RL1220
R342
33mR
RL1220
R341
33mR
RL1220
C53
4.7u/25V
R29
10
C52
2200p
Q304
SI4410DY
Q305
SI4410DY
L3
10uH CDRH125
D308
F1AJ3
C56
0.01u
U310
SS5
PWON5
PWON
FSYN
VREF
SGND
CMPO1
CMPO2
CMPV
CMPI2
CMPI1
PWON3
SS3
RS3
RS5
VU5
LCNX5
BOOST5
VL5
PGND
OUT5
V5
VIN
VL3
BOOST3
LCNX3
VU3
OUT3
SB3052P
VCCON
R350
470K
R351
1M
C54
4.7u/16V
D315
DAP202U
D6
1SS355
C391
1u/25V
D7
1SS355
C51
1u/25V
C419
10u/25V
C50
35MV33SGX
Q312
TM3111
Q313
TM3111
L4
10uH CDRH125
D9
F1AJ3
R361
33mR(NU)
RL1220
R362
33mR
RL1220
R363
33mR
RL1220
D312
1SS355
V3ON
Q3
DTC114TUA
R364
1M
R30
1M
C60
1u/25V
C55
0.01u
C385
2200p
R343
10
C36
6SP68M
C380
0.1u/50V
D305
RLZ6.2B
C384
1u/50V
R332
36K
R333
22K
C381
0.01u
JP2
SHORT
V5S
V3SI
C57
0.1u/50V
C58
1u/50V
JP303
SHORT
V3S
R365
15K
C91
6SP220M
D316
RLZ4.3B
C420
0.01u
R360
22K
C355
10u/25V
C29
35MV33SGX
C24
0.01u
U304
SS
PWRON
REF
RF
SGND
FB
R-
R+
VIN
VU
LCNX
V5
BOOST
VL
PGND
PWRGD
SB3030
Q1
SI4410DY
Q301
SI4410DY
D301
F1AJ3
R2
33mR
RL1220
R1
33mR
RL1220
L1
10uH CDRH125
F5
MMCT2.5A
C2
150u/6.3V
6TPA150M
JP1
SHORT
VCPUCORE
GND
V18ON
R537
47k
D334
1SS355
R545
1M
R10
2.2M
C25
0.1u/50V
C27
0.047u
R11
15k
R8
820k
C26
220p
C353
1000p
(NU)
D2
1SS355
C28
0.22u/50V
C354
4.7u/35V
R9
47k
Q347
DTC114TUA
C547
0.1u/25V
D1
RLZ3.0B
R3
20K 1%
R4
39K 1%
C1
150u/6.3V
6TPA150M
V18OK
V5SI
R349
10K
L2
33uH
CDRH64
D8
RB160L-40
U311
GND
SEL
SHDN
SENSE
PGND
SW
VIN
IT
LTC1301
F7
ICP-S0.5
JP301
SHORT
VPP
C389
0.1u/50V
R346
1M
C390
0.1u/50V
C38
25SC10M
D309
RLZ16B
VPPI
VPPON
Q308
DTC114EUA
V3SI
Q306
NDS356AP
R344
220k
R345
220
Q307
DTC114EUA
V25ON
D310
RB751V-40
U5
ENA
IN
GND
OUT
ADJ
MIC29152BU
R347
102k 1%
R348
100k 1%
1%
C393
PSNB20J156M
C392
0.1u/50V
D311
RLZ3.6B(NU)
JP302
SHORT
VCPUIO
B
C
E

A-C19.DSF

# PC-A100E,H,G TOP (REV 1.F)

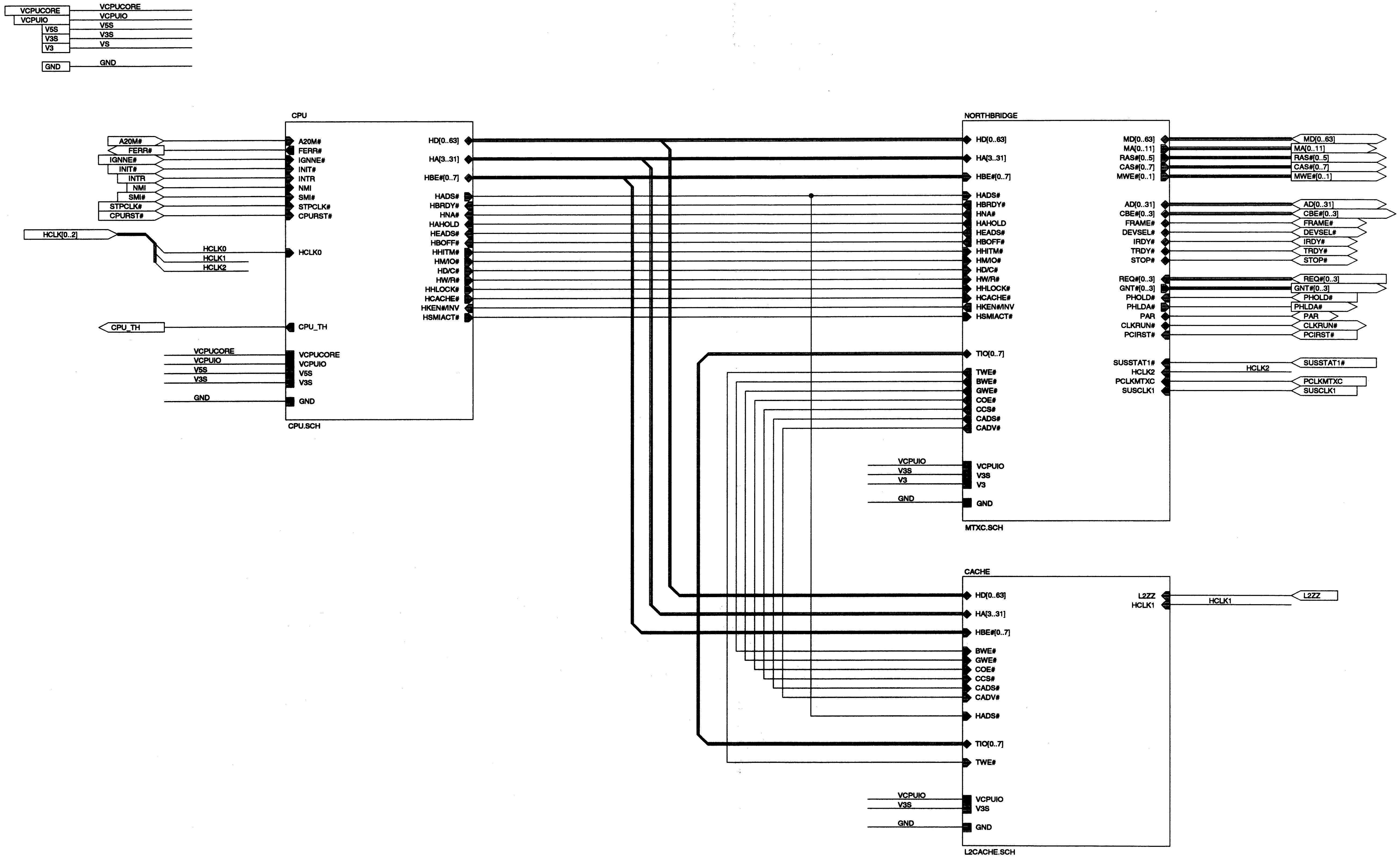
1/19



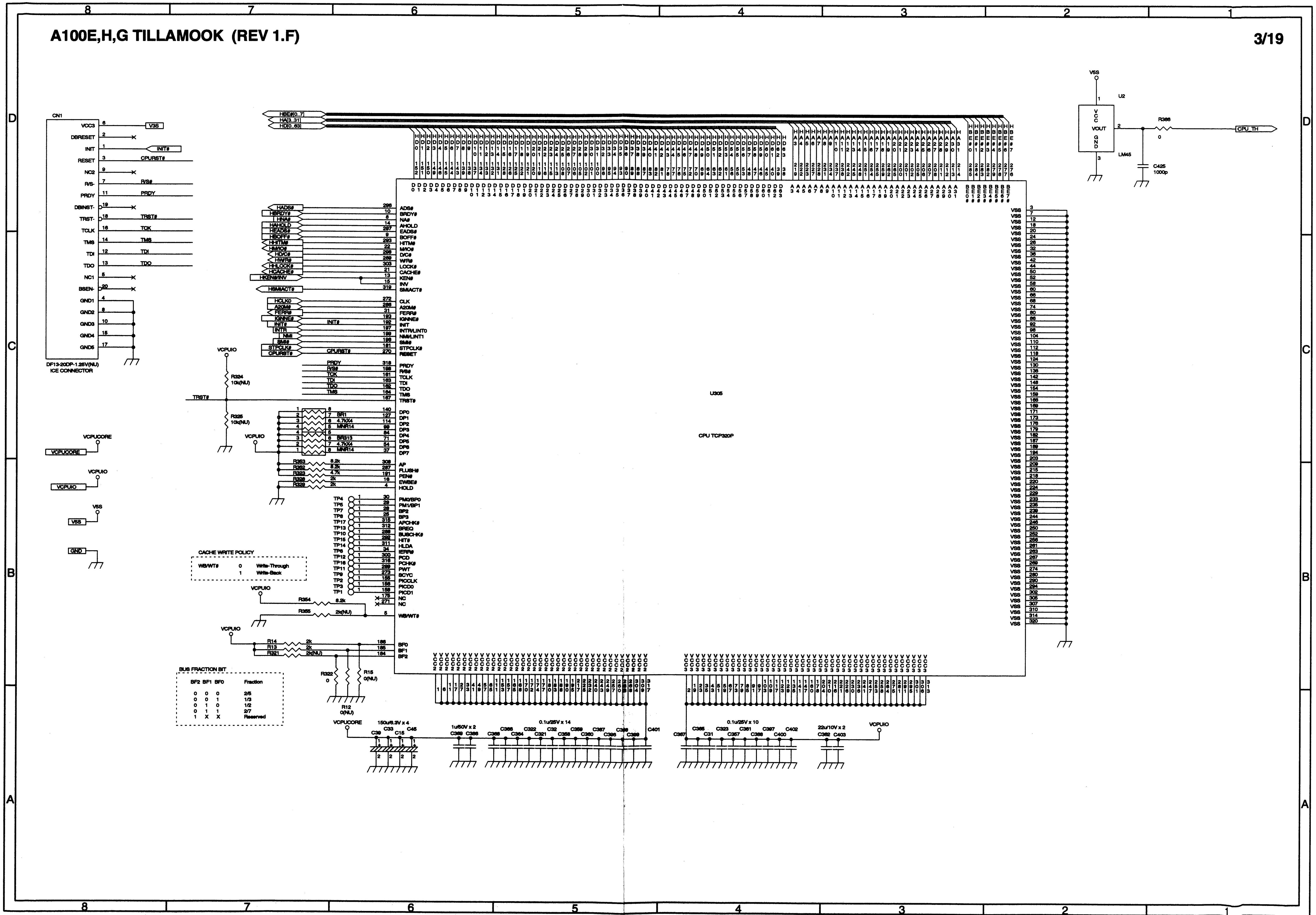
MEMORY
MEMORY.SCH
MMO CONNECTOR
MMOCN.SCH
CLOCK GENERATER
CKGEN.SCH
PIIX4
PIIX4.SCH
IDE & USB
IDEUSB.SCH
BIOS & KEYBOARD
BIOSKBC.SCH
MODEM
MODEM.SCH
VIDEO
VIDEO.SCH
PC card
PCMCIA.SCH
Super I/O
SIO.SCH
AUDIO CONTROLLER
AUDIO.SCH
DC/DC
DCMAIN.SCH
RAS#[0..5]
CAS#[0..7]
MA[0..11]
MWE#[0..1]
MD[0..63]
AD[0..31]
CBE#[0..3]
REQ#[0..3]
GNT#[0..3]
SUSCLK1
CPU_TH
SUSA#/SUSB#
SUSSTAT1#
PDA[0..2]
PDD[0..15]
SD[0..15]
SA[0..19]
DREQ[0..7]
DACK#[0..7]
IRQ[0..15]
IOR#
IOW#
ENIR
WUMDM
PWRGD
DOCK#
LOWBAT#
SUSREQ#
ENAUDIO#
PME#
ZVY[0..7]
ZVUV[0..7]
BLON
OCCB#
SMALM#
S[0..19]
SD[0..15]
SD[0..7]
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
8
7
6
5
4
3
2
1
D
C
B
A

B-C01.DSF

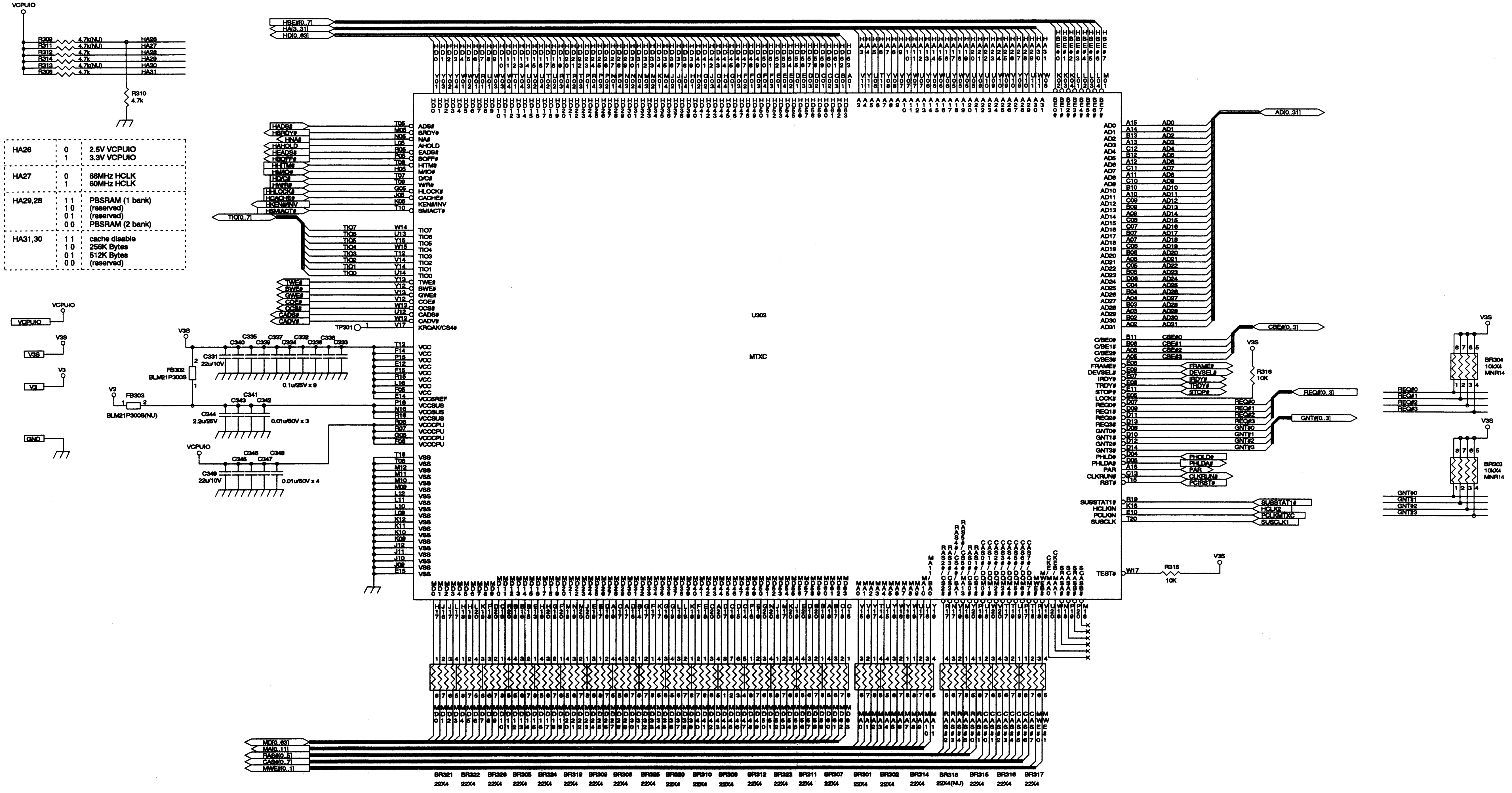
# A100E,H,G I/O TO CPU CONNECTOR (REV 1.F)


VCPUCORE
VCPUIO
V5S
V3S
V3
GND
VCPUCORE
VCPUIO
V5S
V3S
VS
GND
CPU
A20M#
FERR#
IGNNE#
INIT#
INTR
NMI
SMI#
STPCLK#
CPURST#
HCLK[0..2]
HCLK0
HCLK1
HCLK2
HCLK0
CPU_TH
CPU_TH
VCPUCORE
VCPUIO
V5S
V3S
GND
VCPUCORE
VCPUIO
V5S
V3S
GND
HD[0..63]
HA[3..31]
HBE#[0..7]
HADS#
HBRDY#
HNA#
HAHOLD
HEADS#
HBOFF#
HHITM#
HM/IO#
HD/C#
HW/R#
HHLOCK#
HCACHE#
HKEN#/INV
HSMIACT#
CPU.SCH
NORTHBRIDGE
HD[0..63]
HA[3..31]
HBE#[0..7]
HADS#
HBRDY#
HNA#
HAHOLD
HEADS#
HBOFF#
HHITM#
HM/IO#
HD/C#
HW/R#
HHLOCK#
HCACHE#
HKEN#/INV
HSMIACT#
TIO[0..7]
TWE#
BWE#
GWE#
COE#
CCS#
CADS#
CADV#
VCPUIO
V3S
V3
GND
VCPUIO
V3S
V3
GND
MD[0..63]
MA[0..11]
RAS#[0..5]
CAS#[0..7]
MWE#[0..1]
AD[0..31]
CBE#[0..3]
FRAME#
DEVSEL#
IRDY#
TRDY#
STOP#
REQ#[0..3]
GNT#[0..3]
PHOLD#
PHLDA#
PAR
CLKRUN#
PCIRST#
SUSSTAT1#
HCLK2
PCLKMTXC
SUSCLK1
MTXC.SCH
MD[0..63]
MA[0..11]
RAS#[0..5]
CAS#[0..7]
MWE#[0..1]
AD[0..31]
CBE#[0..3]
FRAME#
DEVSEL#
IRDY#
TRDY#
STOP#
REQ#[0..3]
GNT#[0..3]
PHOLD#
PHLDA#
PAR
CLKRUN#
PCIRST#
HCLK2
SUSSTAT1#
PCLKMTXC
SUSCLK1
CACHE
HD[0..63]
HA[3..31]
HBE#[0..7]
BWE#
GWE#
COE#
CCS#
CADS#
CADV#
HADS#
TIO[0..7]
TWE#
VCPUIO
V3S
GND
VCPUIO
V3S
GND
L2CACHE.SCH
L2ZZ
HCLK1
HCLK1
L2ZZ

# A100E,H,G TILLAMOOK (REV 1.F)

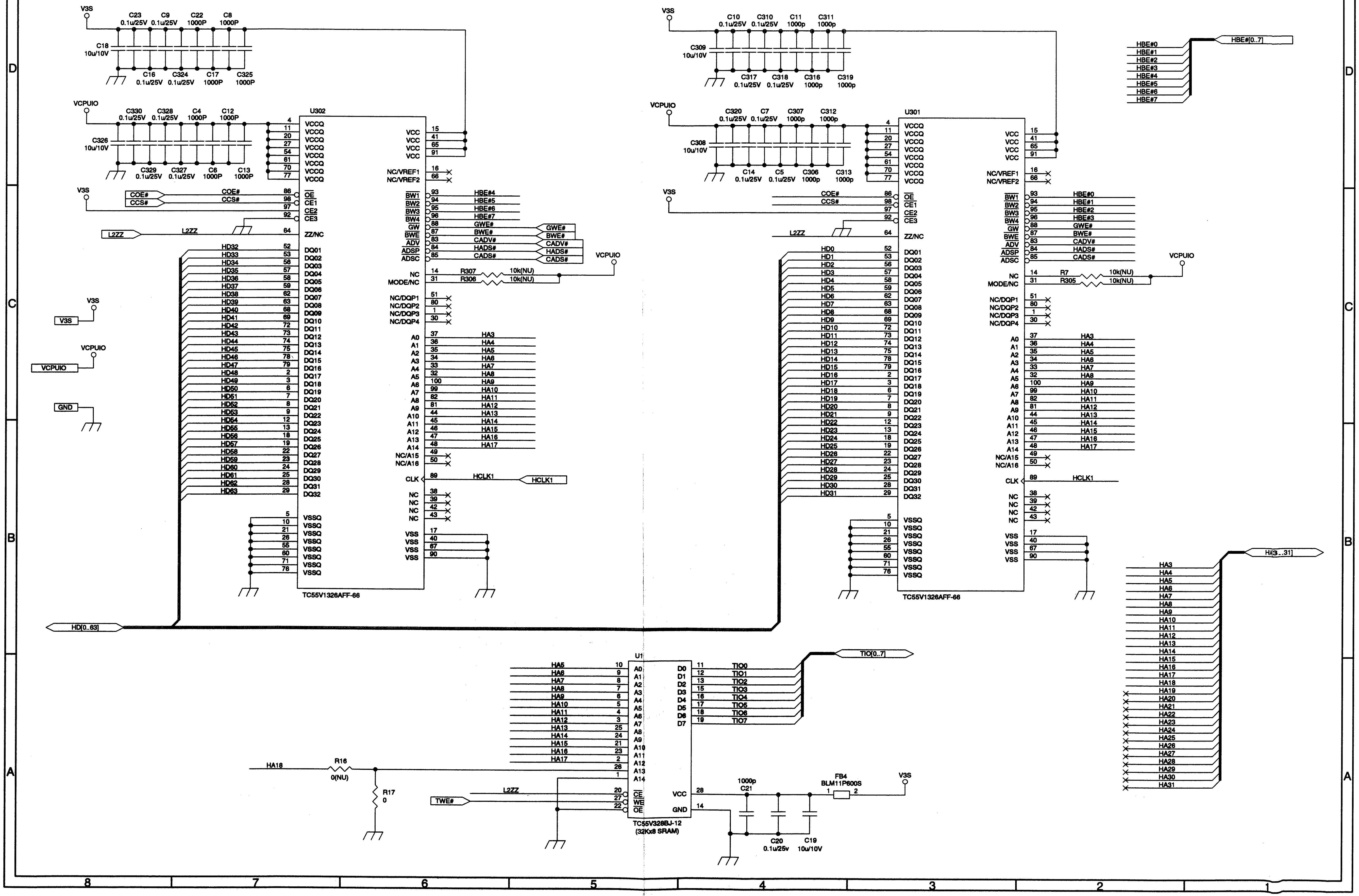

8
7
6
5
4
3
2
1
D
C
B
A
CN1
VCC3
DBRESET
INIT
RESET
NC2
R/S-
PRDY
DBINST-
TRST-
TCLK
TMS
TDI
TDO
NC1
BSEN-
GND1
GND2
GND3
GND4
GND5
V3S
INIT#
CPURST#
R/S#
PRDY
TRST#
TCK
TMS
TDI
TDO
DF13-20DP-1.25V(NU)
ICE CONNECTOR
HBE#[0..7]
HA[3..31]
HD[0..63]
ADS#
BRDY#
NA#
AHOLD
EADS#
BOFF#
HITM#
M/IO#
D/C#
W/R#
LOCK#
CACHE#
KEN#
INV
SMIACT#
CLK
A20M#
FERR#
IGNNE#
INIT
INTR/LINT0
NMI/LINT1
SMI#
STPCLK#
RESET
PRDY
R/S#
TCLK
TDI
TDO
TMS
TRST#
DP0
DP1
DP2
DP3
DP4
DP5
DP6
DP7
AP
FLUSH#
PEN#
EWBE#
HOLD
PM0/BP0
PM1/BP1
BP2
BP3
APCHK#
BREQ
BUSCHK#
HIT#
HLDA
IERR#
PCD
PCHK#
PWT
SCYC
PICCLK
PICD0
PICD1
NC
NC
WB/WT#
BF0
BF1
BF2
VCPUIO
R324
10k(NU)
R325
10k(NU)
VCPUCORE
VCPUIO
VSS
GND
BR1
4.7kX4
MNR14
BR13
4.7kX4
MNR14
R353 8.2k
R352 8.2k
R323 4.7k
R326 2k
R329 2k
TP4
TP5
TP7
TP8
TP17
TP13
TP10
TP15
TP14
TP6
TP12
TP16
TP11
TP9
TP2
TP3
TP1
CACHE WRITE POLICY
WB/WT# 0 Write-Through
1 Write-Back
R354 8.2k
R355 2k(NU)
R14 2k
R13 2k
R321 2k(NU)
R322 0
R15 0(NU)
R12 0(NU)
BUS FRACTION BIT
BF2 BF1 BF0 Fraction
0 0 0 2/5
0 0 1 1/3
0 1 0 1/2
0 1 1 2/7
1 X X Reserved
U305
CPU TCP320P
VCC2
VCC3
VSS
150u/6.3V x 4
C39 C33 C15 C45
1u/50V x 2
C369 C386
0.1u/25V x 14
C368 C322 C32 C359 C357 C384 C321 C356 C360 C396 C399 C388 C401
0.1u/25V x 10
C365 C323 C361 C397 C402 C367 C31 C357 C398 C400
22u/10V x 2
C362 C403
VSS
U2
VCC
VOUT
GND
LM45
R386
0
C425
1000p
CPU_TH

# A100E,H,G Northbridge (REV 1.F)

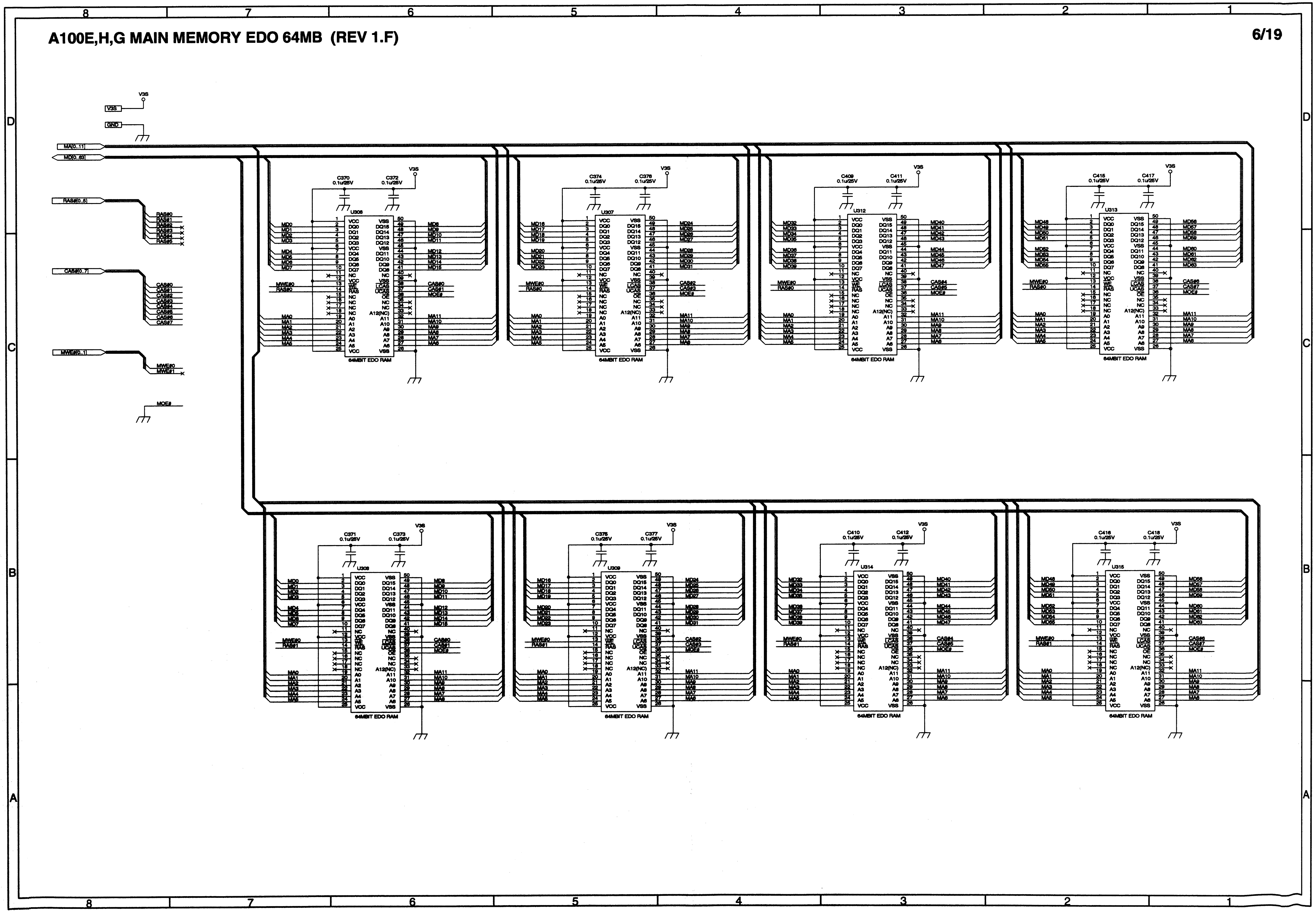

VCPUIO
R309 4.7k(NU) HA26
R311 4.7k(NU) HA27
R312 4.7k HA28
R314 4.7k HA29
R313 4.7k(NU) HA30
R308 4.7k HA31
R310 4.7k
HBE#[0..7]
HA[3..31]
HD[0..63]
HADS#
HBRDY#
HNA#
HAHOLD
HEADS#
HBOFF#
HHITM#
HM/IO#
HD/C#
HWR#
HHLOCK#
HCACHE#
HKEN#/INV
HSMIACT#
TIO[0..7]
TWE#
BWE#
GWE#
COE#
CCS#
CADS#
CADV#
TP301
V3S
V3
VCPUIO
GND
FB302 BLM21P300S
FB303 BLM21P300S(NU)
C331 22u/10V
C335 C337 C332 C336 C340 C339 C334 C338 C333
0.1u/25V x 9
C341 C343 C342
C344 2.2u/25V
0.01u/50V x 3
C346 C348 C345 C347
C349 22u/10V
0.01u/50V x 4
U303
MTXC
AD[0..31]
CBE#[0..3]
FRAME#
DEVSEL#
IRDY#
TRDY#
STOP#
R318 10K
REQ#[0..3]
GNT#[0..3]
PHOLD#
PHLDA#
PAR
CLKRUN#
PCIRST#
SUSSTAT1#
HCLK2
PCLKMTXC
SUSCLK1
TEST#
R315 10K
BR304 10KX4 MNR14
BR303 10KX4 MNR14
REQ#0
REQ#1
REQ#2
REQ#3
GNT#0
GNT#1
GNT#2
GNT#3
MD[0..63]
MA[0..11]
RAS#[0..5]
CAS#[0..7]
MWE#[0..1]
BR321 22X4
BR322 22X4
BR326 22X4
BR305 22X4
BR324 22X4
BR319 22X4
BR309 22X4
BR306 22X4
BR325 22X4
BR320 22X4
BR310 22X4
BR308 22X4
BR312 22X4
BR323 22X4
BR311 22X4
BR307 22X4
BR301 22X4
BR302 22X4
BR314 22X4
BR318 22X4(NU)
BR315 22X4
BR316 22X4
BR317 22X4

| | | |
|---|---|---|
| HA26 | 0 | 2.5V VCPUIO |
| | 1 | 3.3V VCPUIO |
| HA27 | 0 | 66MHz HCLK |
| | 1 | 60MHz HCLK |
| HA29,28 | 1 1 | PBSRAM (1 bank) |
| | 1 0 | (reserved) |
| | 0 1 | (reserved) |
| | 0 0 | PBSRAM (2 bank) |
| HA31,30 | 1 1 | cache disable |
| | 1 0 | 256K Bytes |
| | 0 1 | 512K Bytes |
| | 0 0 | (reserved) |

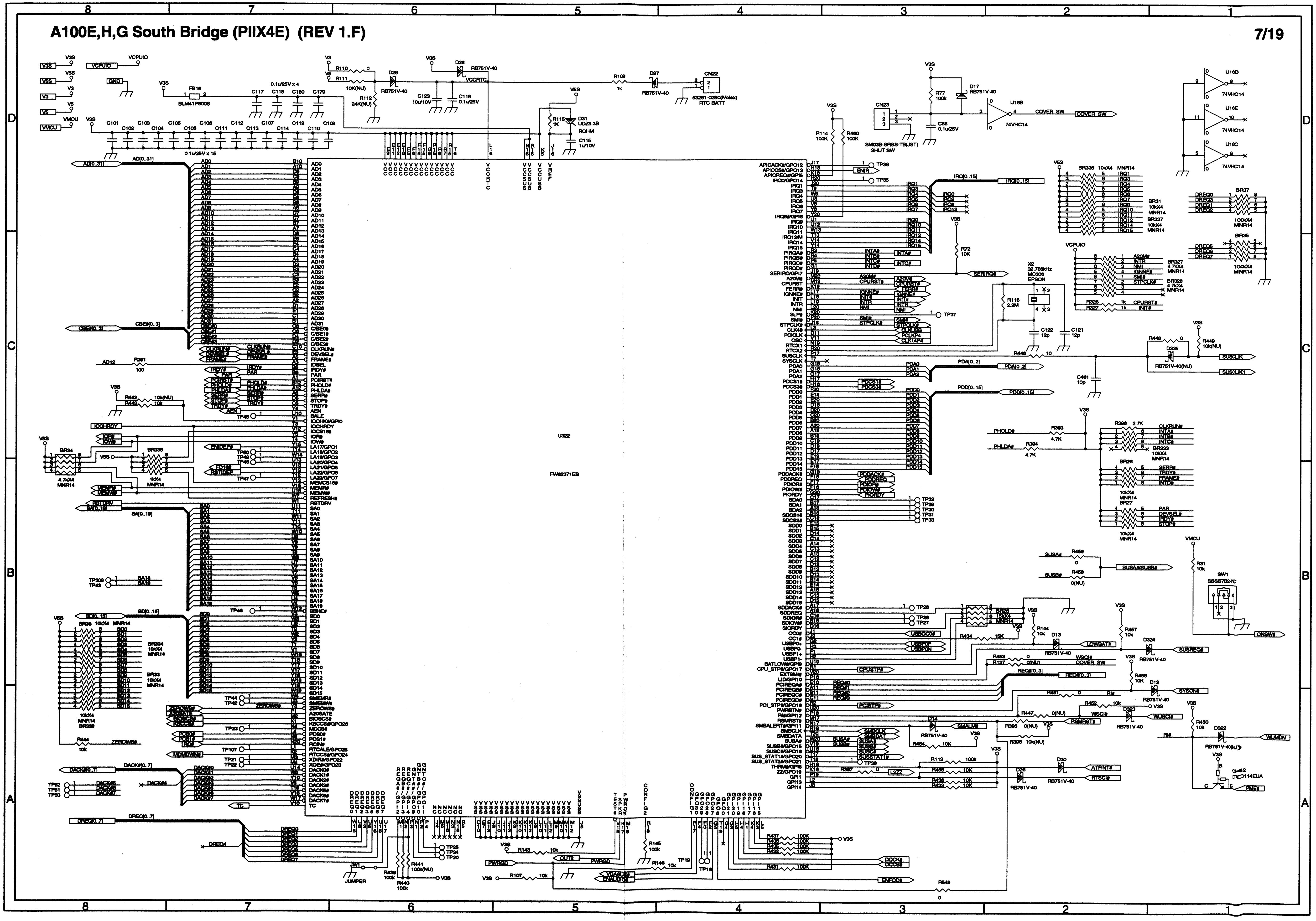
# A100E,H,G CACHE AND TAG SRAM (REV 1.F)


V3S
VCPUIO
GND
C23 0.1u/25V
C9 0.1u/25V
C22 1000P
C8 1000P
C18 10u/10V
C16 0.1u/25V
C324 0.1u/25V
C17 1000P
C325 1000P
C330 0.1u/25V
C328 0.1u/25V
C4 1000P
C12 1000P
C326 10u/10V
C329 0.1u/25V
C327 0.1u/25V
C6 1000P
C13 1000P
U302
TC55V1326AFF-66
VCCQ
VCC
NC/VREF1
NC/VREF2
COE#
CCS#
OE
CE1
CE2
CE3
L2ZZ
ZZ/NC
HD[0..63]
HD32 … HD63
DQ01 … DQ32
BW1
BW2
BW3
BW4
GW
BWE
ADV
ADSP
ADSC
HBE#4
HBE#5
HBE#6
HBE#7
GWE#
BWE#
CADV#
HADS#
CADS#
NC
MODE/NC
R307 10k(NU)
R306 10k(NU)
NC/DQP1
NC/DQP2
NC/DQP3
NC/DQP4
A0 … A14
HA3 … HA17
NC/A15
NC/A16
CLK
HCLK1
VSSQ
VSS
C10 0.1u/25V
C310 0.1u/25V
C11 1000p
C311 1000p
C309 10u/10V
C317 0.1u/25V
C318 0.1u/25V
C316 1000p
C319 1000p
C320 0.1u/25V
C7 0.1u/25V
C307 1000p
C312 1000p
C308 10u/10V
C14 0.1u/25V
C5 0.1u/25V
C306 1000p
C313 1000p
U301
TC55V1326AFF-66
HD0 … HD31
HBE#0
HBE#1
HBE#2
HBE#3
R7 10k(NU)
R305 10k(NU)
HBE#[0..7]
HA[3..31]
HA3 … HA31
U1
TC55V328BJ-12 (32Kx8 SRAM)
HA5 … HA17
A0 … A14
D0 … D7
TIO0 … TIO7
TIO[0..7]
HA18
R16 0(NU)
R17 0
TWE#
CE
WE
OE
VCC
GND
1000p C21
C20 0.1u/25v
C19 10u/10V
FB4 BLM11P600S
8
7
6
5
4
3
2
1
D
C
B
A

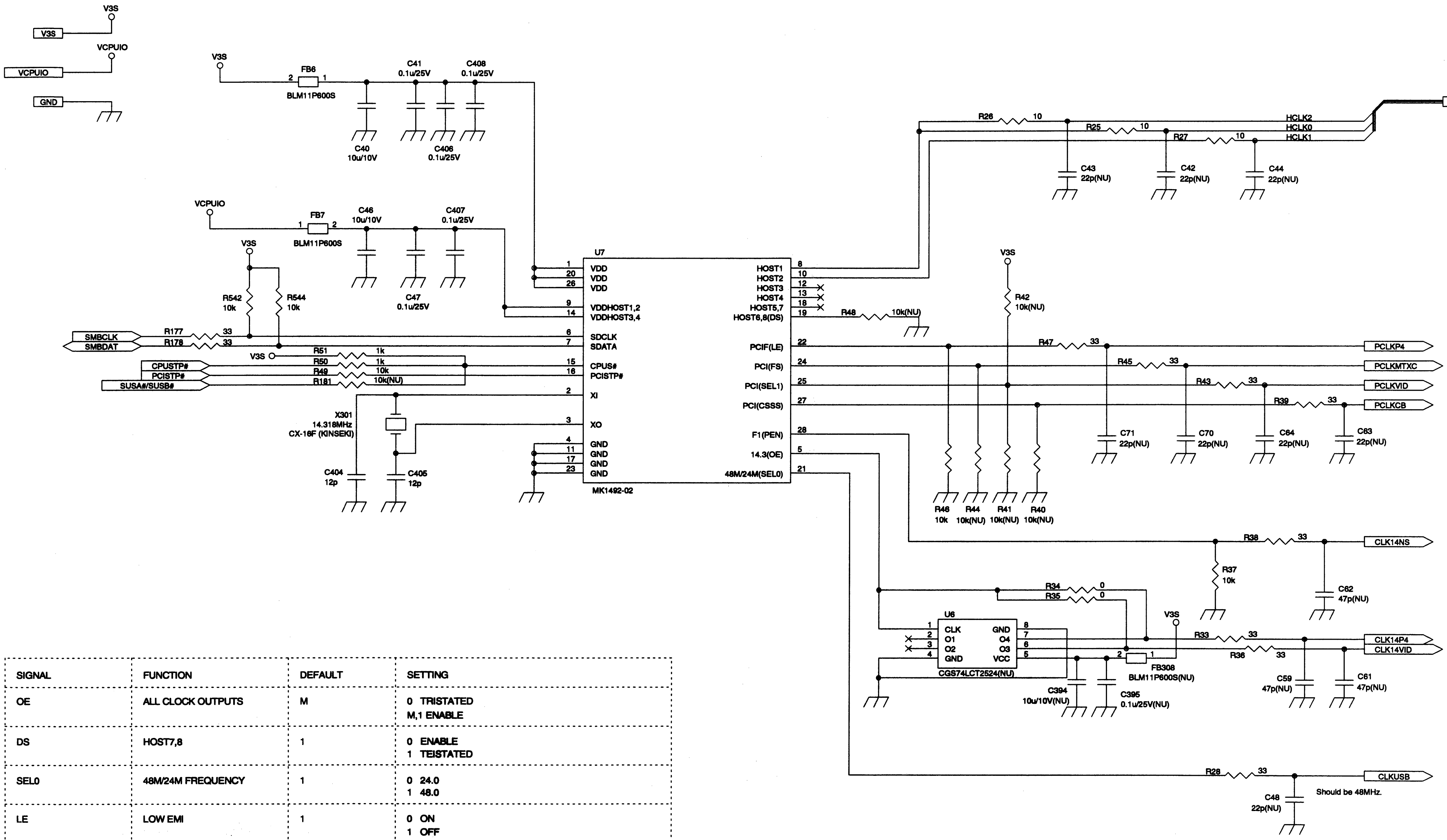
# A100E,H,G MAIN MEMORY EDO 64MB (REV 1.F)


8
7
6
5
4
3
2
1
D
C
B
A
V3S
GND
MA[0..11]
MD[0..63]
RAS#[0..5]
RAS#0
RAS#1
RAS#2
RAS#3
RAS#4
RAS#5
CAS#[0..7]
CAS#0
CAS#1
CAS#2
CAS#3
CAS#4
CAS#5
CAS#6
CAS#7
MWE#[0..1]
MWE#0
MWE#1
MOE#
C370 0.1u/25V
C372 0.1u/25V
U306
C374 0.1u/25V
C376 0.1u/25V
U307
C409 0.1u/25V
C411 0.1u/25V
U312
C415 0.1u/25V
C417 0.1u/25V
U313
C371 0.1u/25V
C373 0.1u/25V
U308
C375 0.1u/25V
C377 0.1u/25V
U309
C410 0.1u/25V
C412 0.1u/25V
U314
C416 0.1u/25V
C418 0.1u/25V
U315
VCC
DQ0
DQ1
DQ2
DQ3
DQ4
DQ5
DQ6
DQ7
NC
WE
RAS
A0
A1
A2
A3
A4
A5
VSS
DQ15
DQ14
DQ13
DQ12
DQ11
DQ10
DQ9
DQ8
LCAS
UCAS
OE
A12(NC)
A11
A10
A9
A8
A7
A6
MD0
MD1
MD2
MD3
MD4
MD5
MD6
MD7
MD8
MD9
MD10
MD11
MD12
MD13
MD14
MD15
MD16
MD17
MD18
MD19
MD20
MD21
MD22
MD23
MD24
MD25
MD26
MD27
MD28
MD29
MD30
MD31
MD32
MD33
MD34
MD35
MD36
MD37
MD38
MD39
MD40
MD41
MD42
MD43
MD44
MD45
MD46
MD47
MD48
MD49
MD50
MD51
MD52
MD53
MD54
MD55
MD56
MD57
MD58
MD59
MD60
MD61
MD62
MD63
MA0
MA1
MA2
MA3
MA4
MA5
MA6
MA7
MA8
MA9
MA10
MA11
64MBIT EDO RAM

# A100E,H,G South Bridge (PIIX4E) (REV 1.F)

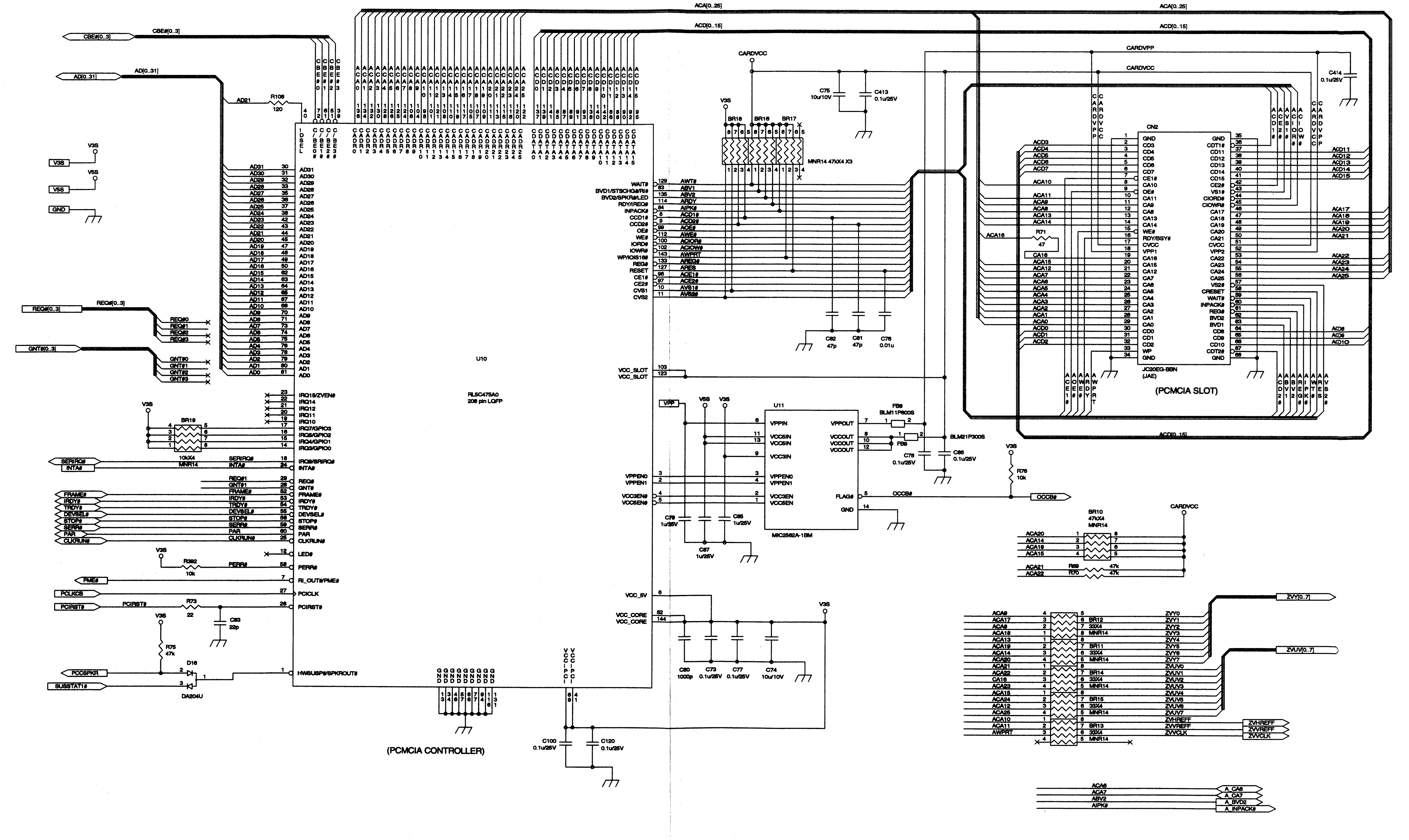

8
7
6
5
4
3
2
1
D
C
B
A
V3S
VCPUIO
V5S
GND
V3
V5
VMCU
FB16
BLM41P800S
0.1u/25V x 4
0.1u/25V x 15
C117
C118
C180
C179
C101
C102
C103
C104
C105
C106
C108
C111
C112
C113
C107
C114
C119
C110
C109
R110
R111
10K(NU)
R112
24K(NU)
D29
RB751V-40
D28
VCCRTC
C123
10u/10V
C116
0.1u/25V
R109
1k
D27
CN22
53261-0290(Molex)
RTC BATT
R115
1K
D31
UDZ3.3B
ROHM
C115
1u/10V
CN23
SM03B-SRSS-TB(JST)
SHUT SW
R77
100k
D17
C88
0.1u/25V
U16B
74VHC14
COVER_SW
U16D
U16E
U16C
R114
100K
R480
100K
AD[0..31]
CBE#[0..3]
AD12
R391
100
R442
10k(NU)
R443
10k
BR34
4.7kX4
MNR14
BR336
1kX4
MNR14
IOCHRDY
IOR#
IOW#
MEMR#
MEMW#
RSTDRV
SA[0..19]
SD[0..15]
BR36
10kX4
MNR14
BR334
BR33
BR338
R444
10k
ZEROWS#
DACK#[0..7]
DREQ[0..7]
DREQ4
JW1
JUMPER
R439
100k
R440
100k
R441
100k(NU)
U322
FW82371EB
R143
10k
R107
PWRGD
OUT2
R145
100k
R146
TP19
TP18
VGASUS#
ENAUDIO#
IRQ[0..15]
BR335
10kX4
MNR14
BR31
BR337
BR37
100kX4
BR35
BR327
4.7kX4
BR328
R72
10K
SERIRQ#
X2
32.768kHz
MC306
EPSON
R116
2.2M
C122
12p
C121
12p
R326
R327
1k
CPURST#
INIT#
R448
R449
10k(NU)
R446
10
D325
RB751V-40(NU)
SUSCLK
SUSCLK1
C461
10p
PDA[0..2]
PDD[0..15]
PHOLD#
PHLDA#
R393
4.7K
R394
R398
2.7K
BR333
BR26
BR27
SUSA#
SUSB#
R459
R458
0(NU)
SUSA#/SUSB#
VMCU
R31
10k
SW1
SSSS7B2-1C
ONSW#
BR28
15kX4
R434
15K
R144
10k
D13
LOWBAT#
R457
D324
SUSREQ#
R453
R137
WSCI#
REQ#[0..3]
R456
D12
SYSON#
R451
RI#
R452
D323
WUSCI#
R447
R395
R396
RSMRST#
D14
SMALM#
R454
R450
D322
WUMDM
R113
D26
D30
ATTINT#
RTSC#
R397
L2Z2
R455
R435
R433
Q468
DTC114EUA
PME#
R437
R436
R438
R432
R431
DOCK#
CCCB#
ENFDD#
R549
0

# A100E,H,G CLOCK GENERATOR AND DRIVER (REV 1.F)

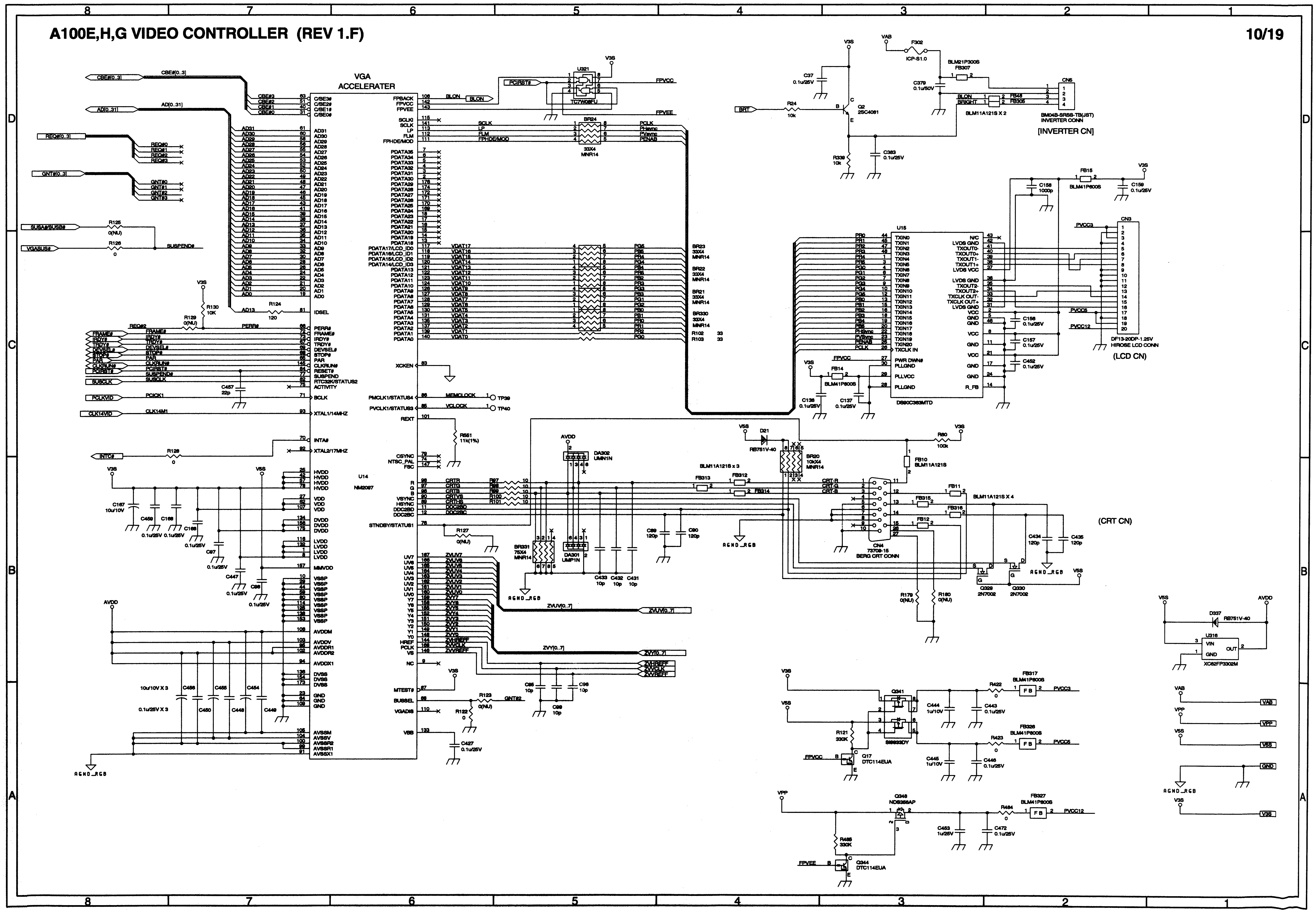

V3S
V3S
VCPUIO
VCPUIO
GND
V3S
FB6
2
1
BLM11P600S
C41
0.1u/25V
C408
0.1u/25V
C40
10u/10V
C406
0.1u/25V
VCPUIO
FB7
1
2
BLM11P600S
C46
10u/10V
C407
0.1u/25V
C47
0.1u/25V
V3S
R542
10k
R544
10k
SMBCLK
SMBDAT
R177
33
R178
33
V3S
R51
1k
CPUSTP#
R50
1k
PCISTP#
R49
10k
SUSA#/SUSB#
R181
10k(NU)
X301
14.318MHz
CX-16F (KINSEKI)
C404
12p
C405
12p
U7
1 VDD
20 VDD
26 VDD
9 VDDHOST1,2
14 VDDHOST3,4
6 SDCLK
7 SDATA
15 CPUS#
16 PCISTP#
2 XI
3 XO
4 GND
11 GND
17 GND
23 GND
MK1492-02
HOST1 8
HOST2 10
HOST3 12
HOST4 13
HOST5,7 18
HOST6,8(DS) 19
PCIF(LE) 22
PCI(FS) 24
PCI(SEL1) 25
PCI(CSSS) 27
F1(PEN) 28
14.3(OE) 5
48M/24M(SEL0) 21
R26
10
R25
10
R27
10
HCLK2
HCLK0
HCLK1
HCLK[0..2]
C43
22p(NU)
C42
22p(NU)
C44
22p(NU)
R48
10k(NU)
V3S
R42
10k(NU)
R47
33
PCLKP4
R45
33
PCLKMTXC
R43
33
PCLKVID
R39
33
PCLKCB
C71
22p(NU)
C70
22p(NU)
C64
22p(NU)
C63
22p(NU)
R46
10k
R44
10k(NU)
R41
10k(NU)
R40
10k(NU)
R38
33
CLK14NS
R37
10k
C62
47p(NU)
R34
0
R35
0
U6
1 CLK
2 O1
3 O2
4 GND
GND 8
O4 7
O3 6
VCC 5
CGS74LCT2524(NU)
V3S
2
1
FB308
BLM11P600S(NU)
C394
10u/10V(NU)
C395
0.1u/25V(NU)
R33
33
CLK14P4
R36
33
CLK14VID
C59
47p(NU)
C61
47p(NU)
R28
33
CLKUSB
C48
22p(NU)
Should be 48MHz.

| SIGNAL | FUNCTION | DEFAULT | SETTING |
|---|---|---|---|
| OE | ALL CLOCK OUTPUTS | M | 0 TRISTATED<br>M,1 ENABLE |
| DS | HOST7,8 | 1 | 0 ENABLE<br>1 TEISTATED |
| SEL0 | 48M/24M FREQUENCY | 1 | 0 24.0<br>1 48.0 |
| LE | LOW EMI | 1 | 0 ON<br>1 OFF |
| CPUS#/CSSS/FS | HOST/PCI FREQUENCY | 1/1/1 | 1/X/0 60.0(OE=M) 50.0(OE=1)<br>1/X/1 66.6(OE=M) 75.0(OE=1)<br>M/0/X 33.33(OE=M) 33.33(OE=1) |
| SEL1 | F1 FREQUENCY | M | 0 PCI<br>M 14.318<br>1 24.0 |
| PEN | PCIF ENABLE | M | 0 Pin25=PCI Pin24=PCI<br>M Pin25=PCI Pin24=PCIF<br>1 Pin25=PCIF Pin24=PCIF |

# A100E,H,G PCMCIA CONTROLLER (REV 1.F)

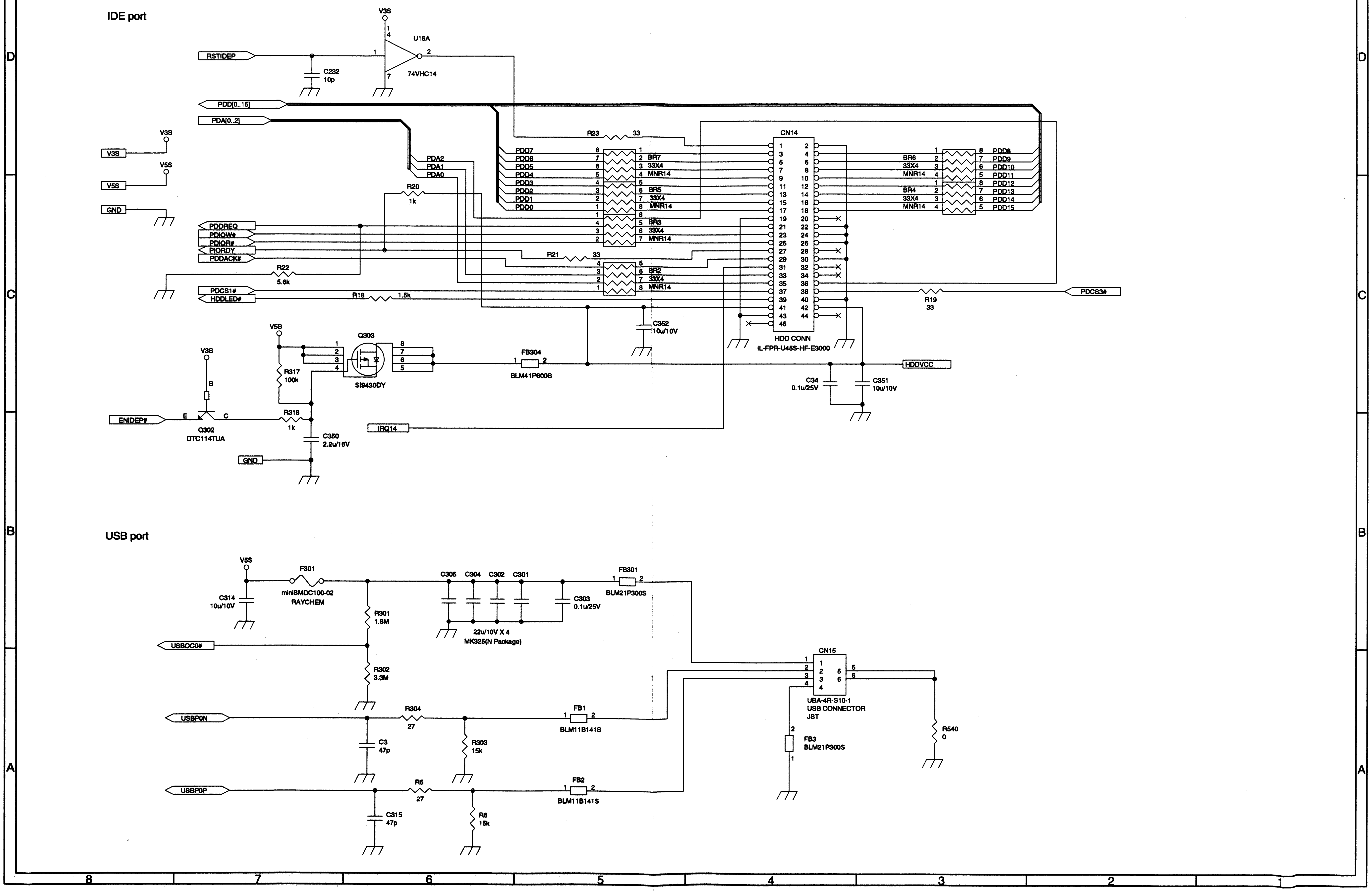

CBE#[0..3]
AD[0..31]
AD21
R108
120
V3S
V5S
GND
REQ#[0..3]
REQ#0
REQ#1
REQ#2
REQ#3
GNT#[0..3]
GNT#0
GNT#1
GNT#2
GNT#3
BR19
10kX4
MNR14
SERIRQ#
INTA#
REQ#1
GNT#1
FRAME#
IRDY#
TRDY#
DEVSEL#
STOP#
SERR#
PAR
CLKRUN#
R392
10k
PERR#
PME#
PCLKCB
PCIRST#
R73
22
C83
22p
R75
47k
D16
DA204U
PCCSPKR
SUSSTAT1#
U10
RL5C475A0
208 pin LQFP
(PCMCIA CONTROLLER)
IDSEL
HWSUSP#/SPKROUT#
RI_OUT#/PME#
PCICLK
PCIRST#
LED#
IRQ15/ZVEN#
IRQ14
IRQ12
IRQ11
IRQ10
IRQ7/GPIO3
IRQ5/GPIO2
IRQ4/GPIO1
IRQ3/GPIO0
IRQ9/SIRIRQ#
VCC_SLOT
VCC_5V
VCC_CORE
WAIT#
BVD1/STSCHG#/RI#
BVD2/SPKR#/LED
RDY/IREQ#
INPACK#
CCD1#
CCD2#
OE#
WE#
IORD#
IOWR#
WP/IOIS16#
REG#
RESET
CE1#
CE2#
CVS1
CVS2
VPPEN0
VPPEN1
VCC3EN#
VCC5EN#
C100
0.1u/25V
C120
0.1u/25V
ACA[0..25]
ACD[0..15]
CARDVCC
CARDVPP
C75
10u/10V
C413
0.1u/25V
C414
0.1u/25V
BR18
BR16
BR17
MNR14 47kX4 X3
C82
47p
C81
47p
C76
0.01u
VPP
U11
MIC2562A-1BM
VPPIN
VCC5IN
VCC3IN
VPPOUT
VCCOUT
FLAG#
GND
FB8
BLM11P600S
FB9
BLM21P300S
C78
0.1u/25V
C86
0.1u/25V
C79
1u/25V
C85
1u/25V
C87
1u/25V
R76
10k
OCCB#
C80
1000p
C73
0.1u/25V
C77
0.1u/25V
C74
10u/10V
CN2
JC20EG-BBN
(JAE)
(PCMCIA SLOT)
R71
47
ACA16
BR10
47kX4
MNR14
R69
R70
47k
BR12
BR11
BR14
BR15
BR13
33X4
MNR14
ZVY[0..7]
ZVUV[0..7]
ZVHREFF
ZVVREFF
ZVVCLK
A_CA6
A_CA7
A_BVD2
A_INPACK#

# A100E,H,G VIDEO CONTROLLER (REV 1.F)

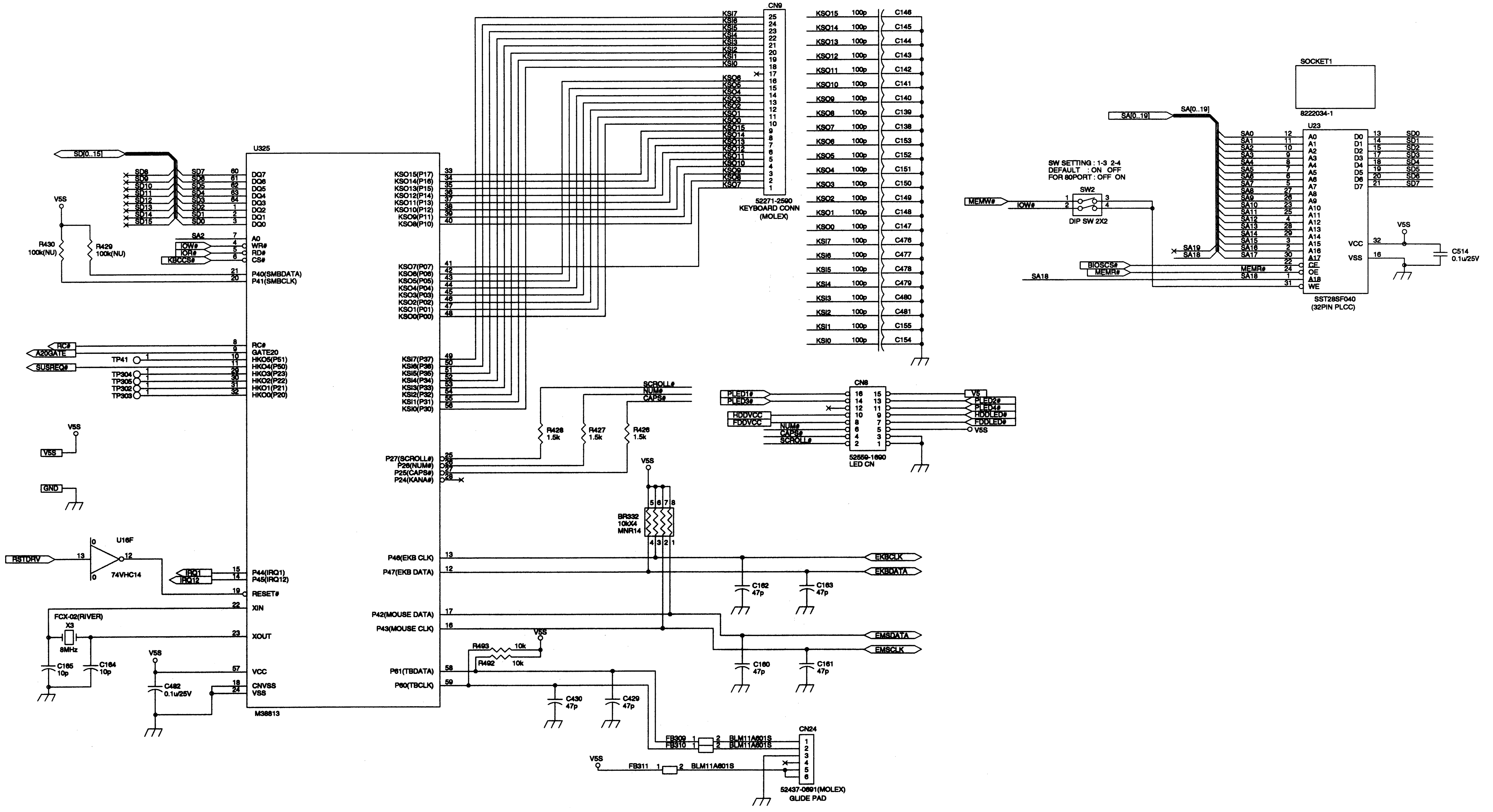

VGA ACCELERATER
U14
NM2097
CBE#[0..3]
AD[0..31]
REQ#[0..3]
GNT#[0..3]
SUSA#/SUSB#
VGASUS#
SUSPEND#
R125 0(NU)
R126 0
R124 120
R129 0(NU)
R130 10K
FRAME#
IRDY#
TRDY#
DEVSEL#
STOP#
PAR
CLKRUN#
PCIRST#
SUSCLK
PCLKVID
CLK14VID
INTC#
R128 0
C457 22p
V3S
V5S
AVDD
C167 10u/10V
C459
C166
C97
C447
C98
0.1u/25V
10u/10V X 3
0.1u/25V X 3
C458
C450
C455
C448
C454
C449
AGND_RGB
U321
TC7W08FU
BLON
FPVCC
FPVEE
BR24
33X4
MNR14
BR23
BR22
BR21
BR330
33X4
MNR14
R102 33
R103 33
XCKEN
MEMCLOCK
VCLOCK
TP39
TP40
R551 11k(1%)
R127 0(NU)
R123 0(NU)
R122 0
GNT#2
C427 0.1u/25V
C95 10p
C96 10p
C99 10p
ZVUV[0..7]
ZVY[0..7]
ZVHREFF
ZVVCLK
ZVVREFF
DA302 UMN1N
DA301 UMP1N
BR331 75X4 MNR14
C89 120p
C90 120p
C433 10p
C432 10p
C431 10p
D21 RB751V-40
BR20 10kX4 MNR14
BLM11A121S x 3
FB313
FB312
FB314
R80 100k
FB10 BLM11A121S
FB11
FB315
FB316
FB12
BLM11A121S X 4
CN4 73709-15 BERG CRT CONN
(CRT CN)
C434 120p
C435 120p
Q329 2N7002
Q330 2N7002
R179 0(NU)
R180 0(NU)
VAB
F302 ICP-S1.0
BLM21P300S FB307
C37 0.1u/25V
C379 0.1u/50V
BRT
R24 10k
Q2 2SC4081
R339 10k
C383 0.1u/25V
BLM11A121S X 2
FB48
FB305
CN5
BM04B-SRSS-TB(JST) INVERTER CONN
[INVERTER CN]
FB15 BLM41P600S
C158 1000p
C159 0.1u/25V
U15
DS90C363MTD
CN3
DF13-20DP-1.25V HIROSE LCD CONN
(LCD CN)
PVCC3
PVCC5
PVCC12
C156 0.1u/25V
C157 0.1u/25V
C452 0.1u/25V
FB14 BLM41P600S
C136 0.1u/25V
C137 0.1u/25V
D337 RB751V-40
U316 XC62FP3302M
Q341 SI6933DY
R121 330K
Q17 DTC114EUA
C444 1u/10V
C443 0.1u/25V
C445 1u/10V
C446 0.1u/25V
R422 0
R423 0
FB317 BLM41P600S
FB326 BLM41P600S
VPP
Q348 NDS356AP
R486 330K
Q344 DTC114EUA
C463 1u/25V
C472 0.1u/25V
R484 0
FB327 BLM41P600S
VAB
VPP
V5S
GND
V3S

B-C10.DSF

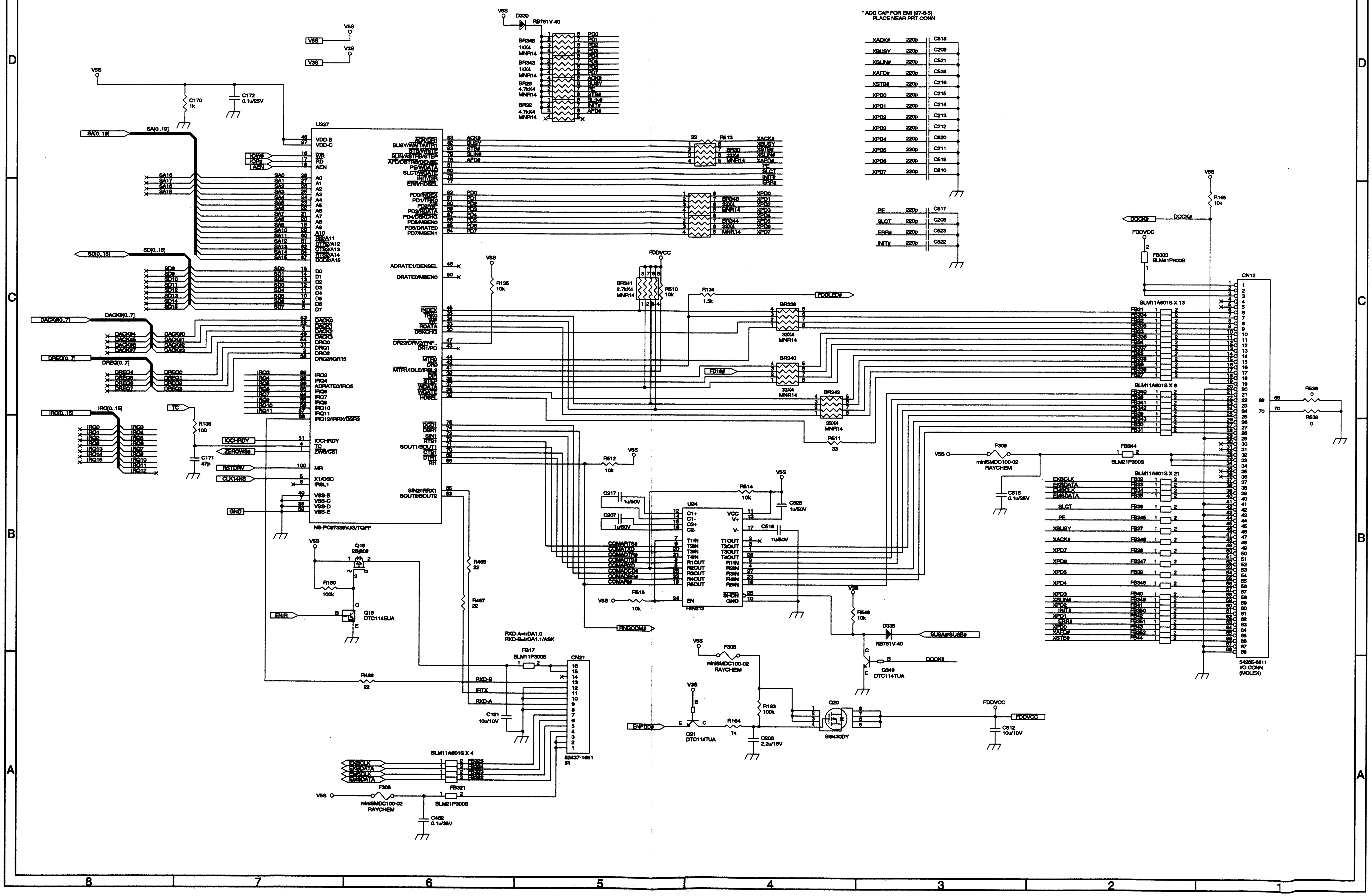
# A100E,H,G IDE/USB INTERFACE (REV 1.F)


IDE port
V3S
U16A
RSTIDEP
C232
10p
74VHC14
PDD[0..15]
PDA[0..2]
V3S
V5S
GND
PDA2
PDA1
PDA0
R20
1k
R23
33
CN14
PDD7
PDD6
PDD5
PDD4
PDD3
PDD2
PDD1
PDD0
BR7
33X4
MNR14
BR5
BR3
BR2
BR6
BR4
PDD8
PDD9
PDD10
PDD11
PDD12
PDD13
PDD14
PDD15
PDDREQ
PDIOW#
PDIOR#
PIORDY
PDDACK#
R21
33
R22
5.6k
PDCS1#
HDDLED#
R18
1.5k
R19
33
PDCS3#
C352
10u/10V
HDD CONN
IL-FPR-U45S-HF-E3000
V5S
Q303
R317
100k
SI9430DY
FB304
BLM41P600S
HDDVCC
C34
0.1u/25V
C351
10u/10V
V3S
ENIDEP#
Q302
DTC114TUA
R318
1k
C350
2.2u/16V
GND
IRQ14
USB port
V5S
F301
miniSMDC100-02
RAYCHEM
C314
10u/10V
R301
1.8M
C305
C304
C302
C301
C303
0.1u/25V
22u/10V X 4
MK325(N Package)
FB301
BLM21P300S
USBOC0#
R302
3.3M
CN15
UBA-4R-S10-1
USB CONNECTOR
JST
USBP0N
R304
27
C3
47p
R303
15k
FB1
BLM11B141S
FB3
BLM21P300S
R540
0
USBP0P
R5
27
C315
47p
R6
15k
FB2
BLM11B141S

# A100E,H,G BIOS AND KEYBOARD CONT. (REV 1.F)

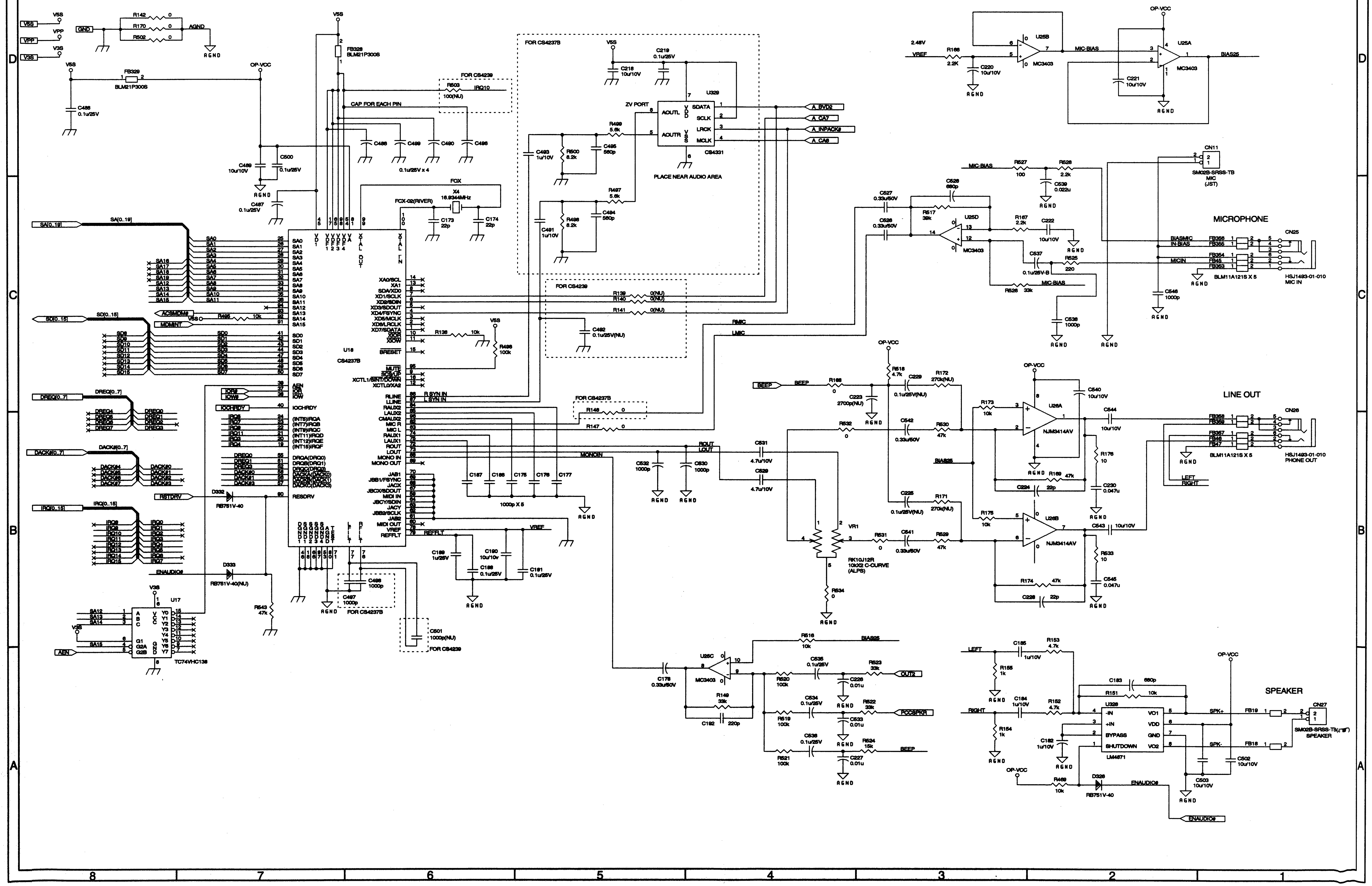

U325
M38813
SD[0..15]
SD8
SD9
SD10
SD11
SD12
SD13
SD14
SD15
SD7
SD6
SD5
SD4
SD3
SD2
SD1
SD0
DQ7
DQ6
DQ5
DQ4
DQ3
DQ2
DQ1
DQ0
SA2
A0
IOW#
WR#
IOR#
RD#
KBCCS#
CS#
V5S
R430
100k(NU)
R429
100k(NU)
P40(SMBDATA)
P41(SMBCLK)
RC#
A20GATE
GATE20
TP41
HKO5(P51)
SUSREQ#
HKO4(P50)
TP304
TP305
TP302
TP303
HKO3(P23)
HKO2(P22)
HKO1(P21)
HKO0(P20)
V5S
GND
RSTDRV
U16F
74VHC14
IRQ1
IRQ12
P44(IRQ1)
P45(IRQ12)
RESET#
XIN
FCX-02(RIVER)
X3
8MHz
XOUT
C165
10p
C164
10p
C482
0.1u/25V
VCC
CNVSS
VSS
KSO15(P17)
KSO14(P16)
KSO13(P15)
KSO12(P14)
KSO11(P13)
KSO10(P12)
KSO9(P11)
KSO8(P10)
KSO7(P07)
KSO6(P06)
KSO5(P05)
KSO4(P04)
KSO3(P03)
KSO2(P02)
KSO1(P01)
KSO0(P00)
KSI7(P37)
KSI6(P36)
KSI5(P35)
KSI4(P34)
KSI3(P33)
KSI2(P32)
KSI1(P31)
KSI0(P30)
P27(SCROLL#)
P26(NUM#)
P25(CAPS#)
P24(KANA#)
P46(EKB CLK)
P47(EKB DATA)
P42(MOUSE DATA)
P43(MOUSE CLK)
P61(TBDATA)
P60(TBCLK)
CN9
52271-2590
KEYBOARD CONN
(MOLEX)
KSO15 100p C146
KSO14 100p C145
KSO13 100p C144
KSO12 100p C143
KSO11 100p C142
KSO10 100p C141
KSO9 100p C140
KSO8 100p C139
KSO7 100p C138
KSO6 100p C153
KSO5 100p C152
KSO4 100p C151
KSO3 100p C150
KSO2 100p C149
KSO1 100p C148
KSO0 100p C147
KSI7 100p C476
KSI6 100p C477
KSI5 100p C478
KSI4 100p C479
KSI3 100p C480
KSI2 100p C481
KSI1 100p C155
KSI0 100p C154
SCROLL#
NUM#
CAPS#
R428
1.5k
R427
1.5k
R426
1.5k
BR332
10kX4
MNR14
EKBCLK
EKBDATA
C162
47p
C163
47p
EMSDATA
EMSCLK
C160
47p
C161
47p
R493
10k
R492
10k
C430
47p
C429
47p
FB309
FB310
BLM11A601S
FB311
CN24
52437-0691(MOLEX)
GLIDE PAD
CN8
PLED1#
PLED3#
HDDVCC
FDDVCC
V5
PLED2#
PLED4#
HDDLED#
FDDLED#
52559-1690
LED CN
SW SETTING : 1-3 2-4
DEFAULT : ON OFF
FOR 80PORT : OFF ON
SW2
DIP SW 2X2
MEMW#
IOW#
SA[0..19]
SA19
SA18
BIOSCS#
MEMR#
SOCKET1
8222034-1
U23
SA0
SA1
SA2
SA3
SA4
SA5
SA6
SA7
SA8
SA9
SA10
SA11
SA12
SA13
SA14
SA15
SA16
SA17
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
A13
A14
A15
A16
A17
CE
OE
A18
WE
D0
D1
D2
D3
D4
D5
D6
D7
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
VCC
VSS
C514
0.1u/25V
SST28SF040
(32PIN PLCC)

# A100E,H,G SUPER I/O (REV 1.F)



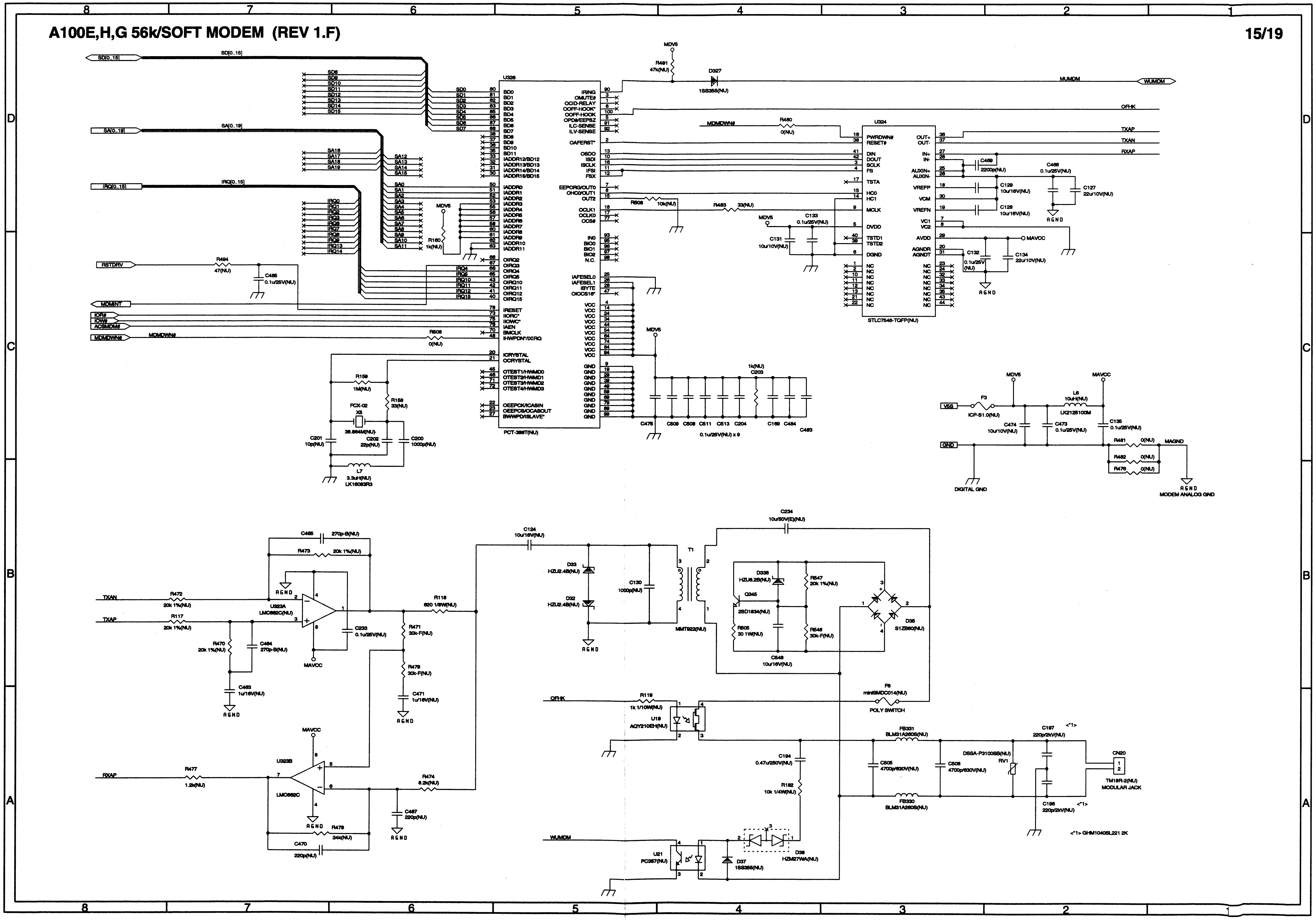
* ADD CAP FOR EMI (97-6-5) PLACE NEAR PRT CONN
U327
NS-PC87336VJG/TQFP
SA[0..19]
SD[0..15]
DACK#[0..7]
DREQ[0..7]
IRQ[0..15]
IOW#
IOR#
AEN
TC
IOCHRDY
ZEROWS#
RSTDRV
CLK14M8
GND
V5S
V3S
C170 1k
C172 0.1u/25V
R136 100
C171 47p
D330 RB751V-40
BR345 1kX4 MNR14
BR343 1kX4 MNR14
BR29 4.7kX4 MNR14
BR32 4.7kX4 MNR14
R513
BR330 33X4 MNR14
BR346 33X4 MNR14
BR344 33X4 MNR14
FDDVCC
BR341 2.7kX4 MNR14
R510 10k
R134 1.5k
FDDLED#
BR339 33X4 MNR14
BR340 33X4 MNR14
BR342 33X4 MNR14
FD16#
R135 10k
R511 33
R512 10k
R514 10k
C217 1u/50V
C207 1u/50V
C525 1u/50V
C516 1u/50V
U24
HIN213
R515 10k
RINGCOM#
R546 10k
D335 RB751V-40
SUSA#/SUSB#
Q349 DTC114TUA
DOCK#
Q19 2SJ208
R150 100k
Q18 DTC114EUA
ENIR
R466 22
R467 22
R468 22
RXD-A=IrDA1.0
RXD-B=IrDA1.1/ASK
FB17 BLM11P300S
CN21 52437-1691 IR
RXD-B
IRTX
RXD-A
C181 10u/10V
BLM11A601S X 4
FB325
FB324
FB323
FB322
EKBCLK
EKBDATA
EMSCLK
EMSDATA
F305 miniSMDC100-02 RAYCHEM
FB321 BLM21P300S
C462 0.1u/25V
F306 miniSMDC100-02 RAYCHEM
R163 100k
Q21 DTC114TUA
ENFDD#
R164 1k
C208 2.2u/16V
Q20 SI9430DY
C512 10u/10V
F309 miniSMDC100-02 RAYCHEM
C515 0.1u/25V
FB344 BLM21P300S
FB333 BLM41P600S
R165 10k
CN12
54265-6811 I/O CONN (MOLEX)
BLM11A601S X 13
BLM11A601S X 8
BLM11A601S X 21
R538 0
R539 0
XACK# XBUSY XSLIN# XAFD# XSTB# XPD0 XPD1 XPD2 XPD3 XPD4 XPD5 XPD6 XPD7
PE SLCT ERR# INIT#
220p
C518 C209 C521 C524 C216 C215 C214 C213 C212 C520 C211 C519 C210
C517 C208 C523 C522

# A100E,H,G AUDIO CONTROLLER (REV 1.F)

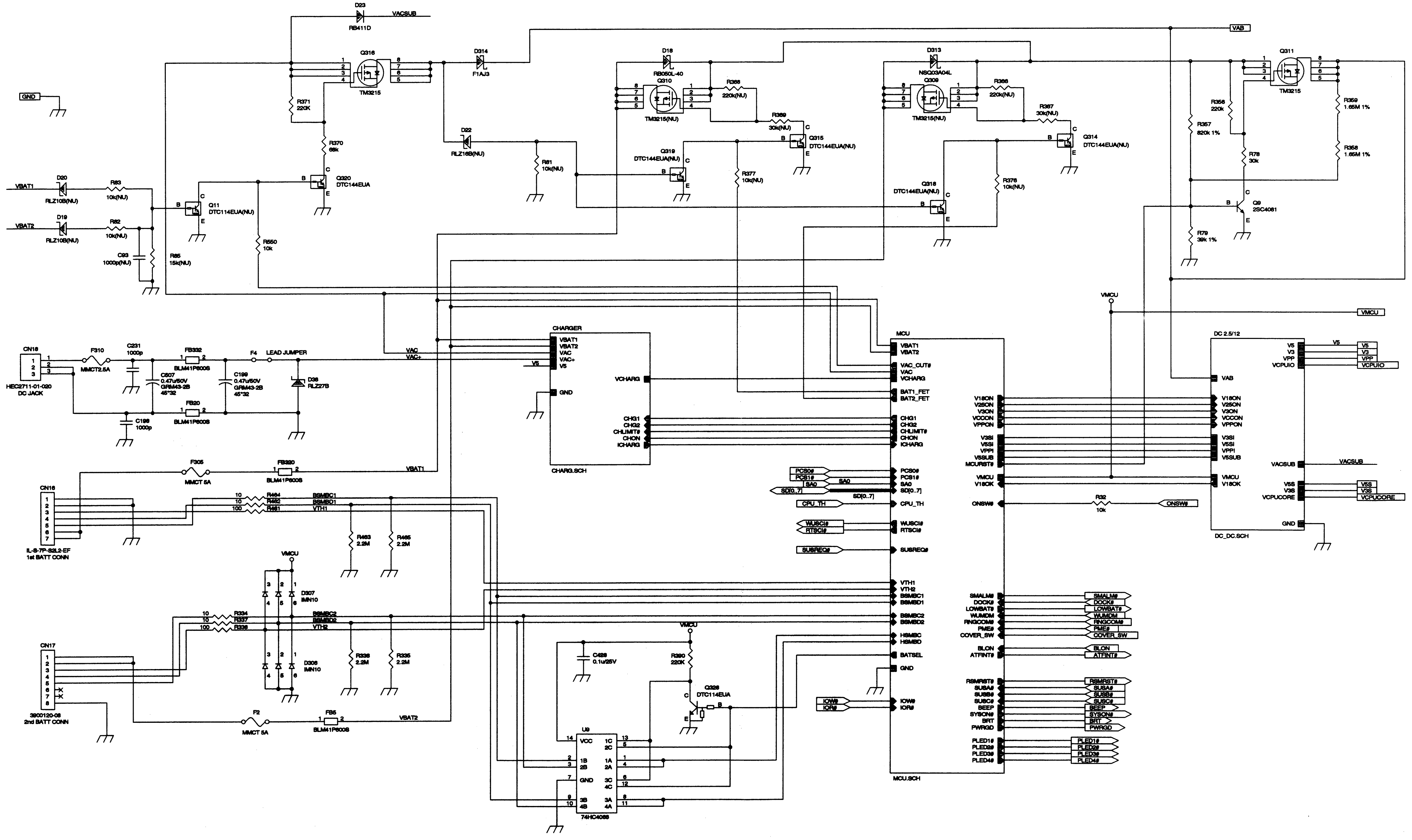

8
7
6
5
4
3
2
1
D
C
B
A
V5S
VPP
V3S
GND
R142 0
R170 0
R502 0
AGND
FB329 BLM21P300S
OP-VCC
C488 0.1u/25V
C489 10u/10V
C500 0.1u/25V
C487 0.1u/25V
FB328 BLM21P300S
FOR CS4239
R503 100(NU)
IRQ10
CAP FOR EACH PIN
C486
C499
C480
C496
0.1u/25V x 4
FOX
X4 16.9344MHz
FCX-02(RIVER)
C173 22p
C174 22p
U18
CS4237B
SA[0..19]
SD[0..15]
ACSMDM#
MDMINT
R495 10k
DREQ[0..7]
DACK#[0..7]
IRQ[0..15]
IOR#
IOW#
IOCHRDY
RSTDRV
D332 RB751V-40
ENAUDIO#
D333 RB751V-40(NU)
R543 47k
U17
TC74VHC138
AEN
R136 10k
R498 100k
C187
C186
C175
C176
C177
1000p X 5
C189 1u/25V
C190 10u/10v
C188 0.1u/25V
C191 0.1u/25V
VREF
C498 1000p
C497 1000p
FOR CS4237B
C501 1000p(NU)
FOR CS4239
FOR CS4237B
C218 10u/10V
C219 0.1u/25V
U329
CS4331
ZV PORT
AOUTL
AOUTR
SDATA
SCLK
LRCK
MCLK
PLACE NEAR AUDIO AREA
R499 5.6k
R500 8.2k
C493 1u/10V
C495 560p
R497 5.6k
R496 8.2k
C491 1u/10V
C494 560p
A_BVD2
A_CA7
A_INPACK#
A_CA6
FOR CS4239
R139 0(NU)
R140 0(NU)
R141 0(NU)
C492 0.1u/25V(NU)
RMIC
LMIC
FOR CS4237B
R148 0
R147 0
ROUT
LOUT
MONOIN
C532 1000p
C530 1000p
C531 4.7u/10V
C529 4.7u/10V
2.48V
VREF
R166 2.2K
C220 10u/10V
U25B
MC3403
MIC-BIAS
U25A
C221 10u/10V
BIAS25
MIC-BIAS
R527 100
R528 2.2k
C539 0.022u
CN11
SM02B-SRSS-TB
MIC (JST)
MICROPHONE
C527 0.33u/50V
C526 0.33u/50V
C528 680p
R517 39k
U25D
R167 2.2k
C222 10u/10V
C537 0.1u/25V-B
R525 220
R526 33k
C536 1000p
BIASMIC
IN-BIAS
MICIN
FB356
FB355
FB354
FB45
FB353
BLM11A121S X 5
CN25
HSJ1493-01-010 MIC IN
C546 1000p
LINE OUT
BEEP
R168 0
C223 2700p(NU)
R518 4.7k
C229 0.1u/25V(NU)
R172 270k(NU)
R173 10k
U26A
NJM3414AV
C540 10u/10V
C544 10u/10V
R532 0
C542 0.33u/50V
R530 47k
R176 10
C230 0.047u
R169 47k
C224 22p
BIAS25
C225 0.1u/25V(NU)
R171 270k(NU)
R175 10k
U26B
NJM3414AV
C543 10u/10V
VR1
RK10J12R 10KX2 C-CURVE (ALPS)
R531 0
C541 0.33u/50V
R529 47k
R533 10
C545 0.047u
R174 47k
C228 22p
R534 0
FB358
FB359
FB357
FB46
FB47
BLM11A121S X 5
CN26
HSJ1493-01-010 PHONE OUT
LEFT
RIGHT
U25C
MC3403
C178 0.33u/50V
R516 10k
BIAS25
C535 0.1u/25V
R523 33k
OUT2
R520 100k
C226 0.01u
R149 33k
C192 220p
R519 100k
C534 0.1u/25V
R522 33k
PCCSPKR
C533 0.01u
R521 100k
C538 0.1u/25V
R524 15k
BEEP
C227 0.01u
LEFT
C185 1u/10V
R153 4.7k
R155 1k
C183 680p
R151 10k
RIGHT
C184 1u/10V
R152 4.7k
R154 1k
U328
LM4871
-IN
+IN
BYPASS
SHUTDOWN
VO1
VDD
GND
VO2
C182 1u/10V
SPK+
SPK-
FB19
FB18
CN27
SM02B-SRSS-TB
SPEAKER
C502 10u/10V
C503 10u/10V
R469 10k
D326 RB751V-40
ENAUDIO#

B-C4.DSF

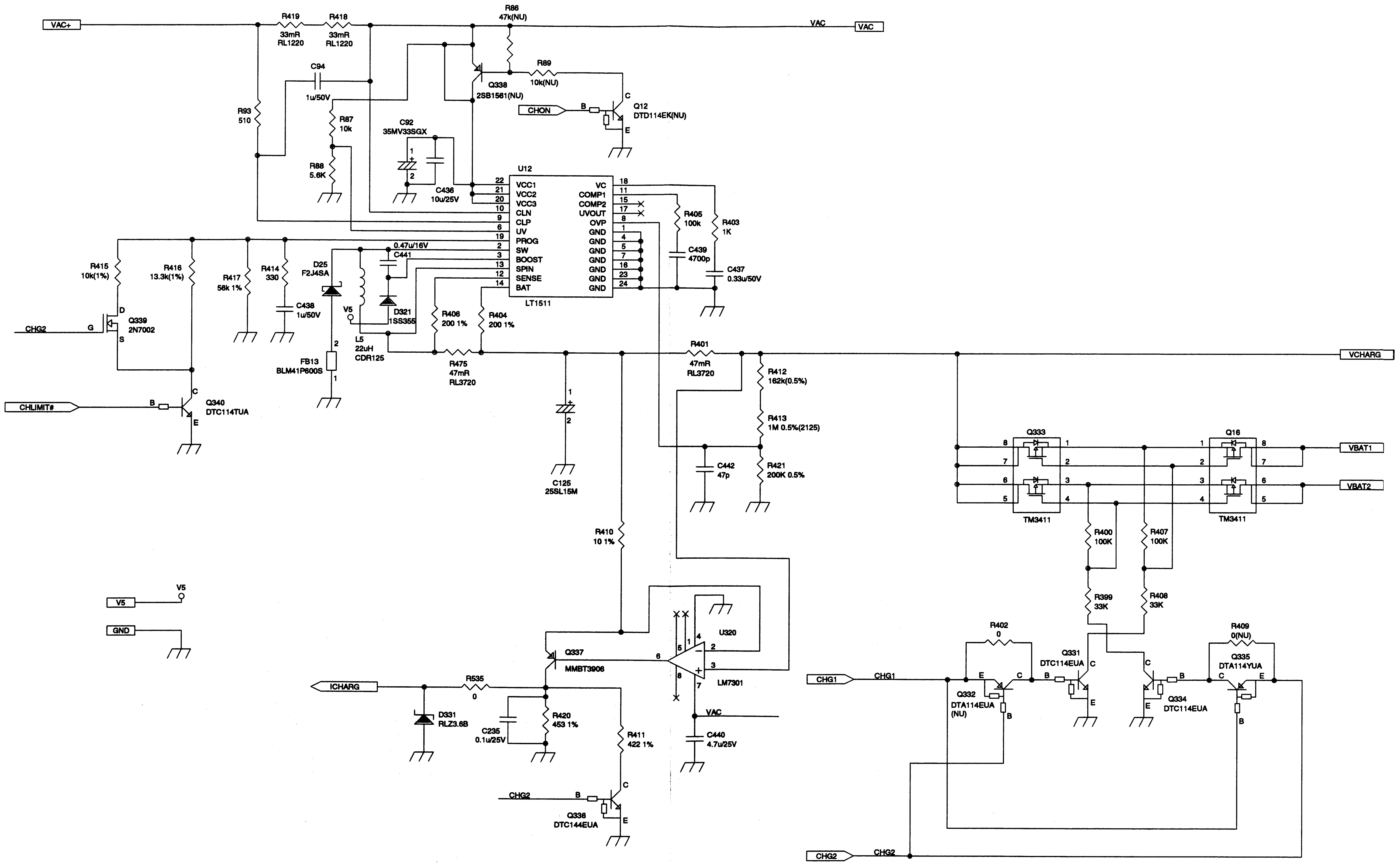
# A100E,H,G 56k/SOFT MODEM (REV 1.F)


SD[0..15]
SA[0..19]
IRQ[0..15]
RSTDRV
MDMINT
IOR#
IOW#
ACSMDM#
MDMDWN#
U326
PCT-388T(NU)
R494
47(NU)
C485
0.1u/25V(NU)
R160
1k(NU)
MDV5
R508
0(NU)
R159
1M(NU)
R158
33(NU)
FCX-02
X5
36.864M(NU)
C201
10p(NU)
C202
22p(NU)
C200
1000p(NU)
L7
3.3uH(NU)
LK16083R3
R491
47k(NU)
D327
1SS355(NU)
MUMDM
WUMDM
OFHK
MDMDWN#
R480
0(NU)
U324
STLC7546-TQFP(NU)
TXAP
TXAN
RXAP
C469
2200p(NU)
C468
0.1u/25V(NU)
C127
22u/10V(NU)
C129
10u/16V(NU)
C128
10u/16V(NU)
R506
10k(NU)
R483
33(NU)
C133
0.1u/25V(NU)
C131
10u/10V(NU)
MAVCC
C132
0.1u/25V(NU)
C134
22u/10V(NU)
AGND
C476
C509
C508
C511
C513
C204
C169
C484
C483
1k(NU)
C203
0.1u/25V(NU) x 9
V5S
F3
ICP-S1.0(NU)
L6
10uH(NU)
LK2125100M
C474
10u/10V(NU)
C473
0.1u/25V(NU)
C135
0.1u/25V(NU)
GND
R481
0(NU)
R482
0(NU)
R476
0(NU)
MAGND
DIGITAL GND
MODEM ANALOG GND
C465
270p-B(NU)
R473
20k 1%(NU)
R472
20k 1%(NU)
R117
20k 1%(NU)
U323A
LMC662C(NU)
R470
20k 1%(NU)
C464
270p-B(NU)
C463
1u/16V(NU)
C233
0.1u/25V(NU)
R118
620 1/8W(NU)
R471
30k-F(NU)
R479
30k-F(NU)
C471
1u/16V(NU)
U323B
LMC662C
R477
1.2k(NU)
R474
8.2k(NU)
C467
220p(NU)
R478
24k(NU)
C470
220p(NU)
C124
10u/16V(NU)
D33
HZU2.4B(NU)
D32
HZU2.4B(NU)
C130
1000p(NU)
T1
MMT922(NU)
C234
10u/50V(E)(NU)
D336
HZU6.2B(NU)
Q345
2SD1834(NU)
R547
20k 1%(NU)
R505
30 1W(NU)
R548
30k-F(NU)
C548
10u/16V(NU)
D35
S1ZB60(NU)
F6
miniSMDC014(NU)
POLY SWITCH
R119
1k 1/10W(NU)
U19
AQY210EH(NU)
FB331
BLM31A260S(NU)
FB330
BLM31A260S(NU)
C194
0.47u/250V(NU)
R182
10k 1/4W(NU)
C505
4700p/630V(NU)
C506
4700p/630V(NU)
DSSA-P3100SB(NU)
RV1
C197
220p/2kV(NU)
C198
220p/2kV(NU)
<*1>
CN20
TM16R-2(NU)
MODULAR JACK
<*1> GHM1040SL221 2K
U21
PC357(NU)
D37
1SS355(NU)
D38
HZM27WA(NU)

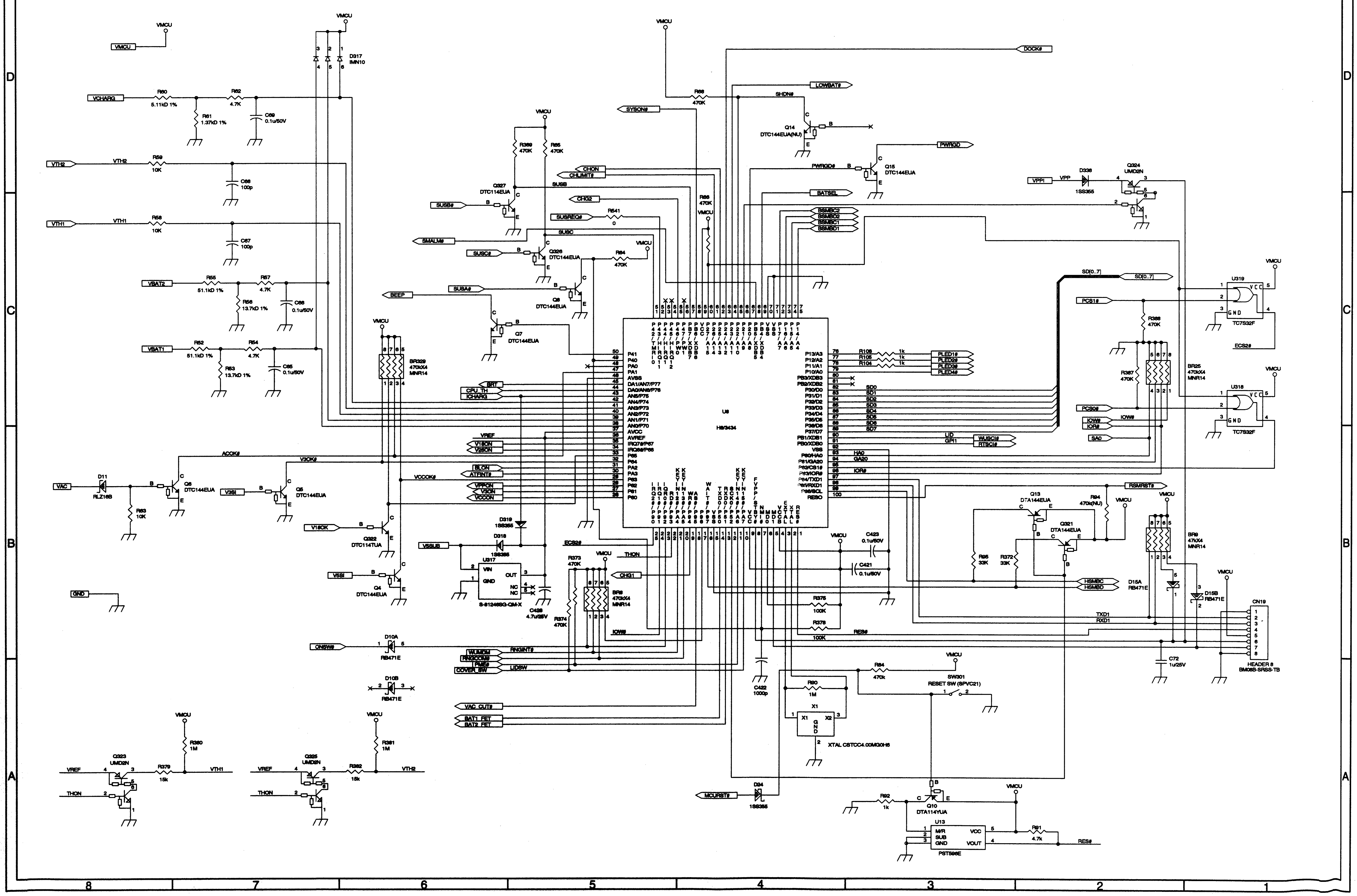
# A100E,H,G CHARGER MAIN (REV 1.F)


D23
RB411D
VACSUB
VAB
D314
F1AJ3
Q316
TM3215
R371
220K
R370
68k
Q320
DTC144EUA
D18
RB050L-40
Q310
TM3215(NU)
R368
220k(NU)
R369
30k(NU)
Q315
DTC144EUA(NU)
Q319
DTC144EUA(NU)
R377
10k(NU)
D313
NSQ03A04L
Q309
TM3215(NU)
R366
220k(NU)
R367
30k(NU)
Q314
DTC144EUA(NU)
Q318
DTC144EUA(NU)
R376
10k(NU)
Q311
TM3215
R356
220k
R357
820k 1%
R359
1.65M 1%
R358
1.65M 1%
R78
30k
Q9
2SC4081
R79
39k 1%
D22
RLZ16B(NU)
R81
10k(NU)
GND
VBAT1
D20
RLZ10B(NU)
R83
10k(NU)
VBAT2
D19
RLZ10B(NU)
R82
10k(NU)
C93
1000p(NU)
R85
15k(NU)
Q11
DTC114EUA(NU)
R550
10k
VMCU
CN18
HEC2711-01-020
DC JACK
F310
MMCT2.5A
C231
1000p
FB332
BLM41P600S
C607
0.47u/50V
GRM43-2B
45*32
C199
0.47u/50V
GRM43-2B
45*32
F4
LEAD JUMPER
D36
RLZ27B
FB20
BLM41P600S
C198
1000p
VAC
VAC+
CHARGER
VBAT1
VBAT2
VAC
VAC+
V5
GND
VCHARG
CHG1
CHG2
CHLIMIT#
CHON
ICHARG
CHARG.SCH
MCU
VBAT1
VBAT2
VAC_CUT#
VAC
VCHARG
BAT1_FET
BAT2_FET
CHG1
CHG2
CHLIMIT#
CHON
ICHARG
PCS0#
PCS1#
SA0
SD[0..7]
CPU_TH
WUSCI#
RTSCI#
SUSREQ#
VTH1
VTH2
BSMBC1
BSMBD1
BSMBC2
BSMBD2
HSMBC
HSMBD
BATSEL
GND
IOW#
IOR#
V18ON
V25ON
V3ON
VCCON
VPPON
V3SI
V5SI
VPPI
V5SUB
MCURST#
VMCU
V18OK
ONSW#
SMALM#
DOCK#
LOWBAT#
WUMDM
RNGCOM#
PME#
COVER_SW
BLON
ATFINT#
RSMRST#
SUSA#
SUSB#
SUSC#
BEEP
SYSON#
BRT
PWRGD
PLED1#
PLED2#
PLED3#
PLED4#
MCU.SCH
R32
10k
DC 2.5/12
V5
V3
VPP
VCPUIO
VAB
V18ON
V25ON
V3ON
VCCON
VPPON
V3SI
V5SI
VPPI
V5SUB
VACSUB
VMCU
V18OK
V5S
V3S
VCPUCORE
GND
DC_DC.SCH
CN16
IL-S-7P-S2L2-EF
1st BATT CONN
F305
MMCT 5A
FB320
BLM41P600S
VBAT1
R464
R462
R461
BSMBC1
BSMBD1
VTH1
R463
2.2M
R465
2.2M
D307
IMN10
D308
IMN10
CN17
3900120-08
2nd BATT CONN
R334
R337
R336
BSMBC2
BSMBD2
VTH2
R338
2.2M
R335
2.2M
F2
MMCT 5A
FB5
BLM41P600S
VBAT2
C428
0.1u/25V
R390
220K
Q326
DTC114EUA
U9
74HC4066
VCC
1B
2B
GND
3B
4B
1C
2C
1A
2A
3C
4C
3A
4A
8
7
6
5
4
3
2
1
D
C
B
A

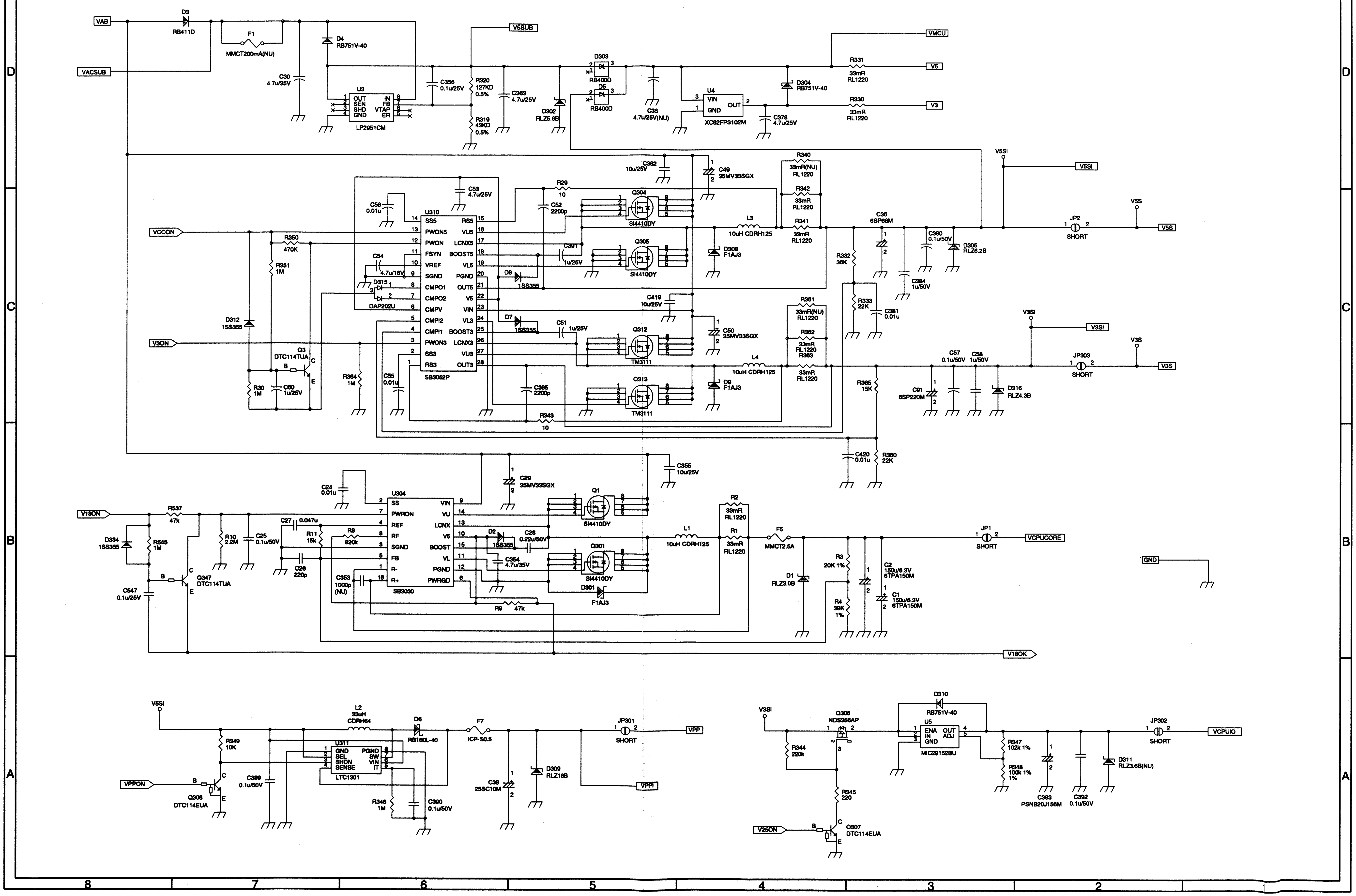
# A100E,H,G SMART CHARGER (REV 1.F)


VAC+
R419
33mR
RL1220
R418
33mR
RL1220
R86
47k(NU)
VAC
VAC
C94
1u/50V
Q338
2SB1561(NU)
R89
10k(NU)
CHON
B
C
E
Q12
DTD114EK(NU)
R93
510
R87
10k
R88
5.6K
C92
35MV33SGX
C436
10u/25V
U12
VCC1
VCC2
VCC3
CLN
CLP
UV
PROG
SW
BOOST
SPIN
SENSE
BAT
VC
COMP1
COMP2
UVOUT
OVP
GND
LT1511
R405
100k
R403
1K
C439
4700p
C437
0.33u/50V
0.47u/16V
C441
R415
10k(1%)
R416
13.3k(1%)
R417
56k 1%
R414
330
C438
1u/50V
D25
F2J4SA
D321
1SS355
V5
L5
22uH
CDR125
FB13
BLM41P600S
R406
200 1%
R404
200 1%
R475
47mR
RL3720
Q339
2N7002
CHG2
G
D
S
CHLIMIT#
Q340
DTC114TUA
C125
25SL15M
R401
47mR
RL3720
R412
162k(0.5%)
R413
1M 0.5%(2125)
C442
47p
R421
200K 0.5%
VCHARG
Q333
Q16
TM3411
TM3411
VBAT1
VBAT2
R400
100K
R407
100K
R399
33K
R408
33K
R410
10 1%
V5
GND
U320
LM7301
Q337
MMBT3906
ICHARG
R535
0
D331
RLZ3.6B
C235
0.1u/25V
R420
453 1%
R411
422 1%
VAC
C440
4.7u/25V
CHG2
Q336
DTC144EUA
R402
0
Q331
DTC114EUA
R409
0(NU)
Q335
DTA114YUA
CHG1
CHG1
Q332
DTA114EUA
(NU)
Q334
DTC114EUA
CHG2
CHG2

# A100E,H,G MCU H8/3434 (REV 1.F)


8
7
6
5
4
3
2
1
D
C
B
A
VMCU
D317
IMN10
VCHARG
R60
5.11kΩ 1%
R62
4.7K
R61
1.37kΩ 1%
C69
0.1u/50V
VTH2
R59
10K
C66
100p
VTH1
R58
10K
C67
100p
VBAT2
R55
51.1kΩ 1%
R57
4.7K
R56
13.7kΩ 1%
C68
0.1u/50V
VBAT1
R52
51.1kΩ 1%
R54
4.7K
R53
13.7kΩ 1%
C65
0.1u/50V
R369
470K
R65
470K
Q327
DTC114EUA
SUSB
SUSB#
SMALM#
SUSC#
SUSC
Q326
DTC144EUA
R64
470K
SUSA#
Q8
DTC144EUA
BEEP
Q7
DTC144EUA
BR329
470KX4
MNR14
CHON
CHLIMIT#
CHG2
SUSREQ#
R541
0
SYSON#
R66
470K
R68
470K
DOCK#
LOWBAT#
SHDN#
Q14
DTC144EUA(NU)
PWRGD
PWRGD#
Q15
DTC144EUA
BATSEL
BSMBC2
BSMBD2
BSMBC1
BSMBD1
VPPI
VPP
D336
1SS355
Q324
UMD2N
SD[0..7]
U319
TC7S32F
PCS1#
R368
470K
R367
470K
BR25
470KX4
MNR14
ECS2#
U318
TC7S32F
PCS0#
IOW#
IOR#
SA0
U8
H8/3434
R106
R105
R104
1k
PLED1#
PLED2#
PLED3#
PLED4#
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
LID
GPI1
WUSCI#
RTSCI#
HA0
GA20
IOR#
BRT
CPU_TH
ICHARG
VREF
V1SON
V2SON
BLON
ATFINT#
VPPON
V3ON
VCCON
ACOK#
V3OK#
VCCOK#
VAC
D11
RLZ18B
R63
10K
Q6
DTC144EUA
V3SI
Q5
DTC144EUA
V18OK
Q322
DTC114TUA
D319
1SS355
V5SUB
D318
1SS355
U317
S-81246SG-QM-X
VIN
GND
OUT
NC
C426
4.7u/25V
V5SI
Q4
DTC144EUA
GND
ECS2#
THON
R373
470K
BR8
470KX4
MNR14
R374
470K
CHG1
IOW#
ONSW#
D10A
RB471E
WUMDM
RNGINT#
RINGCOM#
PME#
COVER_SW
LIDSW
D10B
RB471E
VAC_CUT#
BAT1_FET
BAT2_FET
C423
0.1u/50V
C421
0.1u/50V
R376
100K
R378
100K
RES#
C422
1000p
R90
1M
X1
XTAL CSTCC4.00MG0H6
R84
470k
SW301
RESET SW (SPVC21)
D24
1SS355
MCURST#
R92
1k
Q10
DTA114YUA
U13
PST596E
M/R
SUB
GND
VCC
VOUT
R91
4.7k
RES#
RSMRST#
Q13
DTA144EUA
R94
470k(NU)
Q321
DTA144EUA
R95
33K
R372
33K
HSMBC
HSMBD
D15A
RB471E
BR9
47KX4
MNR14
D15B
RB471E
TXD1
RXD1
C72
1u/25V
CN19
HEADER 8
BM08B-SRSS-TB
Q323
UMD2N
VREF
THON
R379
15k
R380
1M
VTH1
Q325
UMD2N
R382
15k
R381
1M
VTH2

# A100E,H,G DC/DC (REV 1.F)

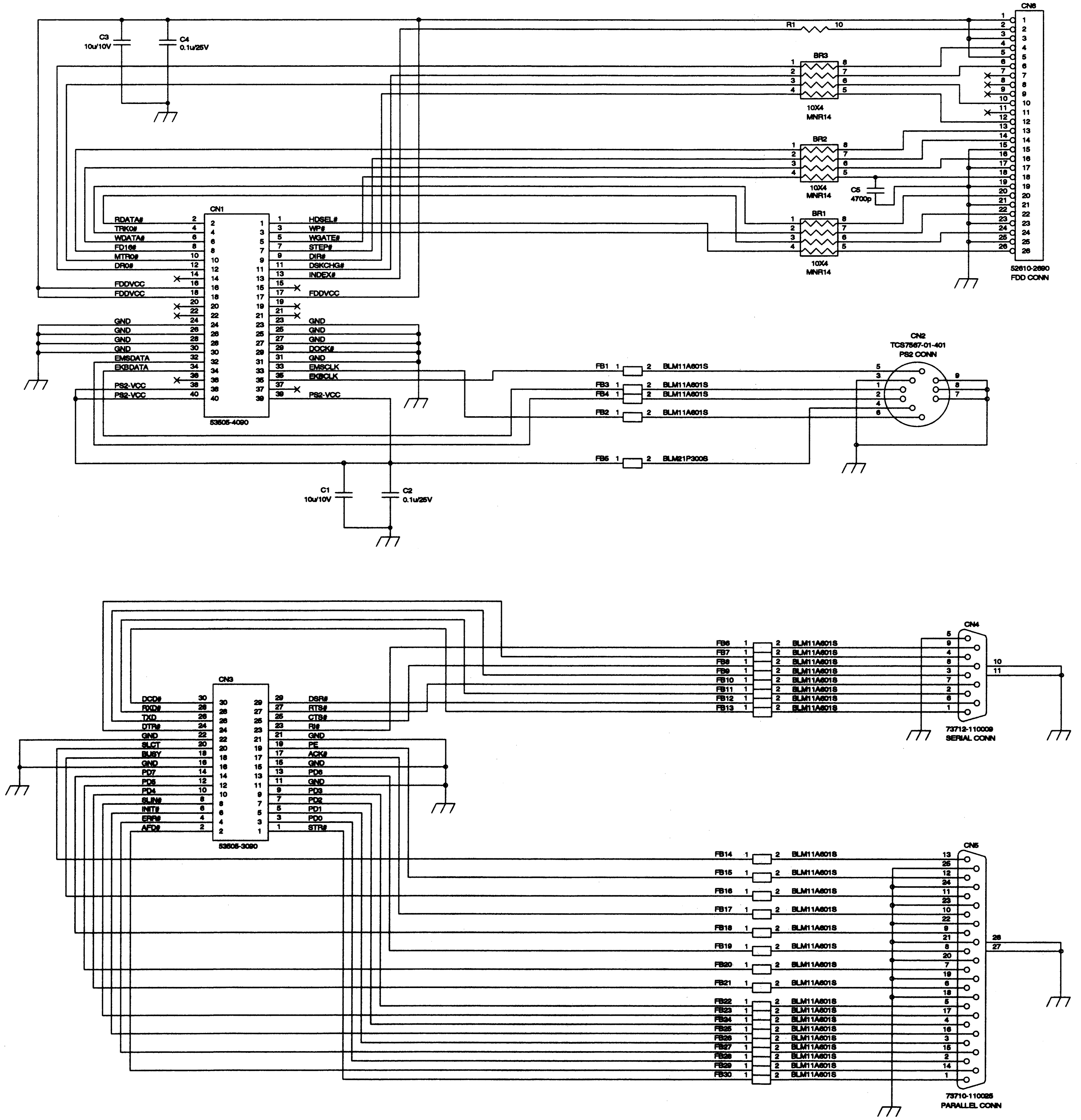


8
7
6
5
4
3
2
1
D
C
B
A
VAB
D3
RB411D
F1
MMCT200mA(NU)
VACSUB
C30
4.7u/35V
D4
RB751V-40
U3
OUT
SEN
SHD
GND
IN
FB
VTAP
ER
LP2951CM
C356
0.1u/25V
V5SUB
R320
127KD
0.5%
R319
43KD
0.5%
C363
4.7u/25V
D302
RLZ5.6B
D303
RB400D
D5
RB400D
C35
4.7u/25V(NU)
U4
VIN
GND
OUT
XC62FP3102M
C378
4.7u/25V
D304
RB751V-40
VMCU
R331
33mR
RL1220
V5
R330
33mR
RL1220
V3
V5SI
C382
10u/25V
C49
35MV33SGX
R340
33mR(NU)
RL1220
R342
33mR
RL1220
R341
33mR
RL1220
C53
4.7u/25V
C56
0.01u
U310
SS5
PWON5
PWON
FSYN
VREF
SGND
CMPO1
CMPO2
CMPV
CMPI2
CMPI1
PWON3
SS3
RS3
RS5
VU5
LCNX5
BOOST5
VL5
PGND
OUT5
V5
VIN
VL3
BOOST3
LCNX3
VU3
OUT3
SB3052P
R29
10
C52
2200p
Q304
SI4410DY
Q305
SI4410DY
C391
1u/25V
L3
10uH CDRH125
D306
F1AJ3
C36
6SP68M
C380
0.1u/50V
D305
RLZ6.2B
R332
36K
C384
1u/50V
JP2
SHORT
V5S
VCCON
R350
470K
R351
1M
C54
4.7u/16V
D315
DAP202U
D8
1SS355
D312
1SS355
C419
10u/25V
Q312
TM3111
C50
35MV33SGX
R361
33mR(NU)
RL1220
R362
33mR
RL1220
R363
33mR
RL1220
R333
22K
C381
0.01u
V3SI
D7
1SS355
C51
1u/25V
V3ON
Q3
DTC114TUA
R30
1M
C60
1u/25V
R364
1M
C55
0.01u
C385
2200p
L4
10uH CDRH125
D9
F1AJ3
Q313
TM3111
R343
10
C57
0.1u/50V
C58
1u/50V
C91
6SP220M
D316
RLZ4.3B
R365
15K
JP303
SHORT
V3S
C420
0.01u
R360
22K
C355
10u/25V
C29
35MV33SGX
C24
0.01u
U304
SS
PWRON
REF
RF
SGND
FB
R-
R+
VIN
VU
LCNX
V5
BOOST
VL
PGND
PWRGD
SB3030
Q1
SI4410DY
Q301
SI4410DY
V18ON
R537
47k
D334
1SS355
R545
1M
R10
2.2M
C25
0.1u/50V
C27
0.047u
R11
15k
R8
820k
C26
220p
C353
1000p
(NU)
D2
1SS355
C28
0.22u/50V
C354
4.7u/35V
D301
F1AJ3
R9
47k
Q347
DTC114TUA
C547
0.1u/25V
R2
33mR
RL1220
R1
33mR
RL1220
L1
10uH CDRH125
F5
MMCT2.5A
D1
RLZ3.0B
R3
20K 1%
R4
39K
1%
C2
150u/6.3V
6TPA150M
C1
150u/6.3V
6TPA150M
JP1
SHORT
VCPUCORE
GND
V18OK
V5SI
L2
33uH
CDRH64
D6
RB160L-40
F7
ICP-S0.5
JP301
SHORT
VPP
R349
10K
U311
GND
SEL
SHDN
SENSE
PGND
SW
VIN
IT
LTC1301
C389
0.1u/50V
VPPON
Q308
DTC114EUA
R346
1M
C390
0.1u/50V
C38
25SC10M
D309
RLZ16B
VPPI
V3SI
Q306
NDS356AP
R344
220k
R345
220
Q307
DTC114EUA
V25ON
D310
RB751V-40
U5
ENA
IN
GND
OUT
ADJ
MIC29152BU
R347
102k 1%
R348
100k 1%
1%
C393
PSN820J156M
C392
0.1u/50V
D311
RLZ3.6B(NU)
JP302
SHORT
VCPUIO

B-C19.DSF

# PJ-1 FD-I/O PCB  (REV 1.1)

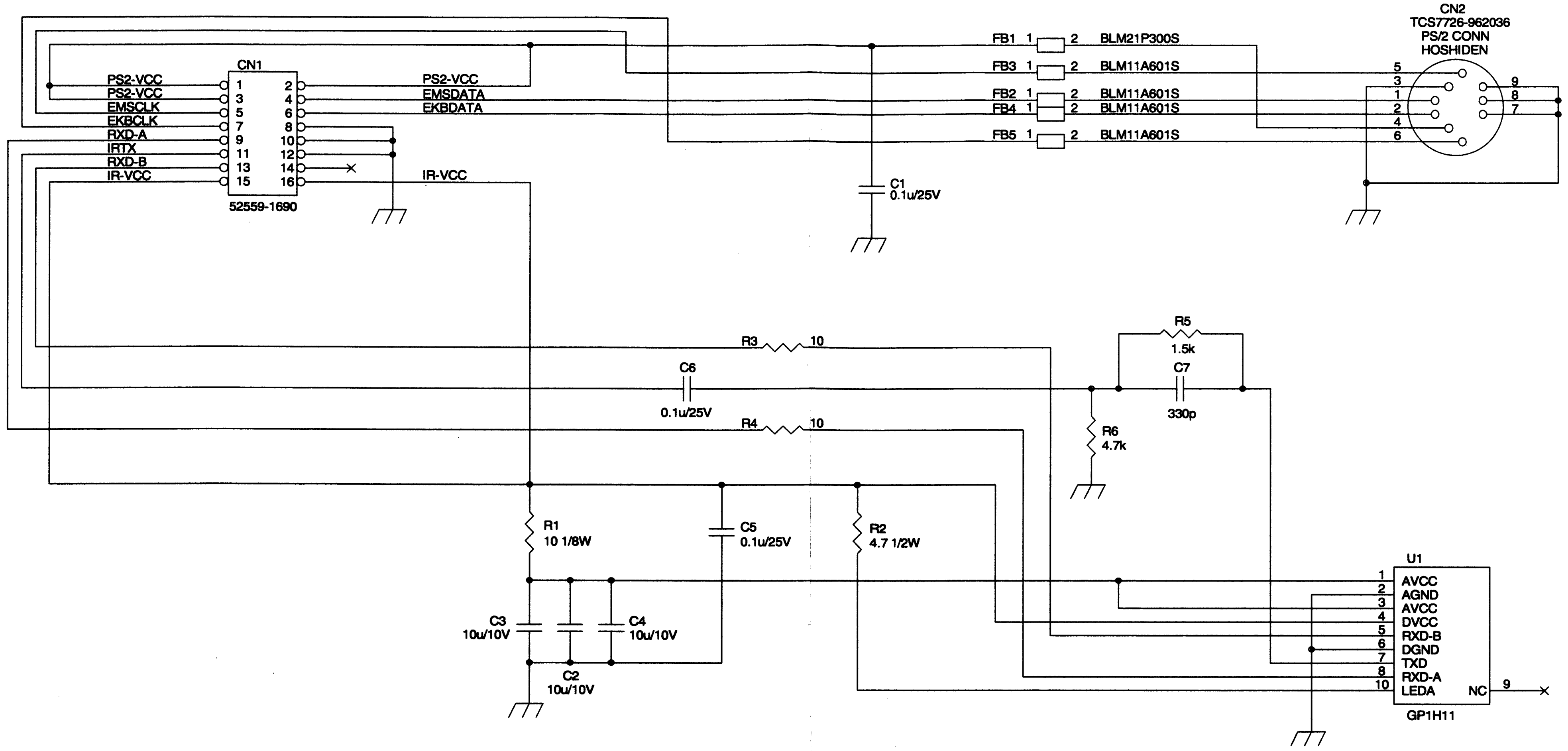
1/1


C3
10u/10V
C4
0.1u/25V
C1
10u/10V
C2
0.1u/25V
R1 10
BR3
BR2
BR1
10X4
MNR14
C5
4700p
CN6
52610-2690
FDD CONN
CN1
53505-4090
RDATA#
TRK0#
WDATA#
FD16#
MTR0#
DR0#
FDDVCC
GND
EMSDATA
EKBDATA
PS2-VCC
HDSEL#
WP#
WGATE#
STEP#
DIR#
DSKCHG#
INDEX#
DOCK#
EMSCLK
EKBCLK
CN2
TCS7567-01-401
PS2 CONN
FB1
FB2
FB3
FB4
FB5
BLM11A601S
BLM21P300S
CN3
53505-3090
DCD#
RXD#
TXD
DTR#
SLCT
BUSY
PD7
PD5
PD4
SLIN#
INIT#
ERR#
AFD#
DSR#
RTS#
CTS#
RI#
PE
ACK#
PD6
PD3
PD2
PD1
PD0
STR#
FB6
FB7
FB8
FB9
FB10
FB11
FB12
FB13
CN4
73712-110009
SERIAL CONN
FB14
FB15
FB16
FB17
FB18
FB19
FB20
FB21
FB22
FB23
FB24
FB25
FB26
FB27
FB28
FB29
FB30
CN5
73710-110025
PARALLEL CONN

C-001.DSF

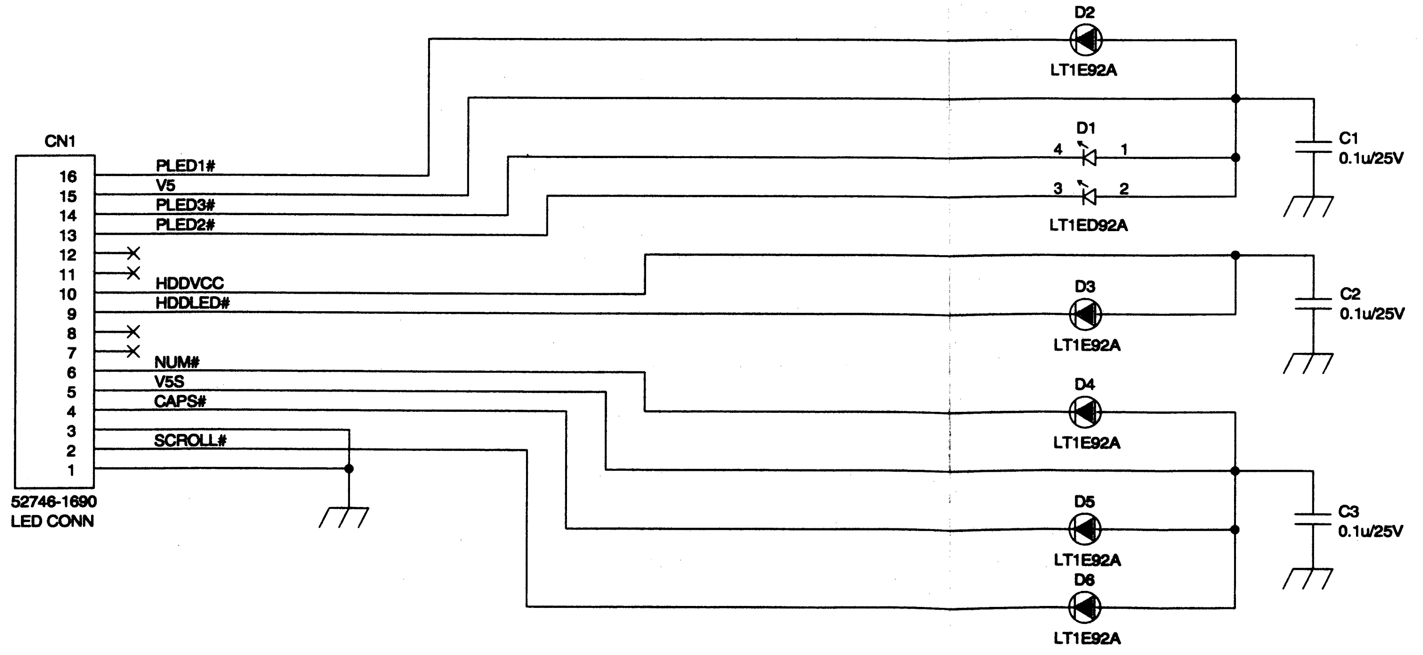
## PJ-1 IR & PS/2 PCB (REV 1.0)

1/1


CN1
PS2-VCC
PS2-VCC
EMSCLK
EKBCLK
RXD-A
IRTX
RXD-B
IR-VCC
1
3
5
7
9
11
13
15
2
4
6
8
10
12
14
16
PS2-VCC
EMSDATA
EKBDATA
IR-VCC
52559-1690
FB1
FB3
FB2
FB4
FB5
BLM21P300S
BLM11A601S
BLM11A601S
BLM11A601S
BLM11A601S
C1
0.1u/25V
CN2
TCS7726-962036
PS/2 CONN
HOSHIDEN
R3
10
R4
10
C6
0.1u/25V
R5
1.5k
C7
330p
R6
4.7k
R1
10 1/8W
C5
0.1u/25V
R2
4.7 1/2W
C3
10u/10V
C2
10u/10V
C4
10u/10V
U1
AVCC
AGND
AVCC
DVCC
RXD-B
DGND
TXD
RXD-A
LEDA
NC
GP1H11

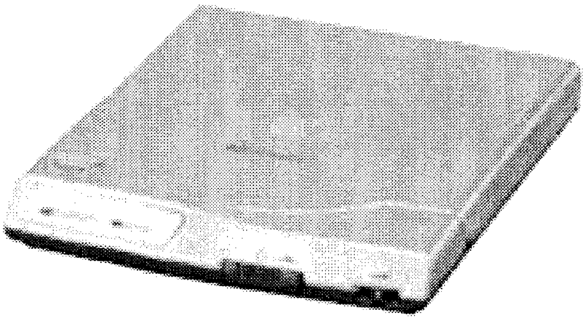
## PJ-1 LED PCB (REV 1.0)

1/1


CN1
PLED1#
V5
PLED3#
PLED2#
HDDVCC
HDDLED#
NUM#
V5S
CAPS#
SCROLL#
52746-1690
LED CONN
D2
LT1E92A
D1
LT1ED92A
D3
LT1E92A
D4
LT1E92A
D5
LT1E92A
D6
LT1E92A
C1
0.1u/25V
C2
0.1u/25V
C3
0.1u/25V

# SHARP SERVICE MANUAL

CODE: 00ZCECD01SM-E



# OPTION

## EXTERNAL CD-ROM DRIVE UNIT

## MODEL CE-CD01

For PC-A100

## 1. KIT COMPOMENTS

- Drive unit
- AC adaptor (U model only)
- Interface card and cable

## 2. PRODUCT OUTLINE

| | CE-CD01 |
|---|---|
| CD-ROM drive section | Max. 20x CD-ROM drive (when PC is driven using AC adaptor). (U only)<br>Max. 12x speed when PC is driven on DC. |
| | Driven on AC/DC (supplied by PC) |
| Interface section | PCMCIA card: conforming to ATAPI (TYPE II) |
| Components contained in package | • CD-ROM drive<br>• Interface card (PCMCIA)<br>• Interface cable<br>• AC adaptor (U model only)<br>• Instruction manual |
| Other | It is possible to boot the PC from the CD-ROM drive when reinstalling the OS with the recovery CD-ROM. |

This document has been published to be used
for after sales service only.
The contents are subject to change without notice.

SHARP CORPORATION

SHARP CORPORATION
Information Systems Group
Quality & Reliability Control Center
Yamatokoriyama, Nara 639-1186, Japan
1998 September Printed in U.K. Ⓢ

## Parts guide

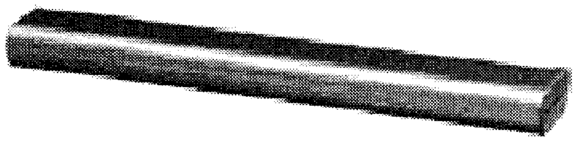
| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION |
|---|---|---|---|---|---|
| 1 | 00NSJDZZ0032X | BV | N | C | PC card |
| 2 | 00NSJDYQ0092X | AY | N | D | Set up disk |
| ⚠ 3 | 00NSJDEP0014Y | BU | N | B | AC adaptor [U] |
| 4 | 00NSJDLW0018Z | BU |  | C | Cable |
| 5 | TiNSU2382ACZZ | AK | N | D | Instruction book [U,E,A,C] |
|  | TiNSG2383ACZZ |  | N | D | Instruction book [G] |
| 6 | 00NSJDYQ0093W | BA | N | D | Packing case(include pipe mold case,pad) |
| 7 | 00NSJDPW0010Z | AK |  | D | Vinyl bag (for Warranty)[U] |
| 9 | TGANU1192ACZZ | AE | N | D | Warranty sheet [U] |
| 10 | 00NSPJPFA0041 | AL |  | D | Vinyl bag (for SET) |
| 11 | 00NSPJPF0118Z | AL |  | D | Vinyl bag (for I/F card) |
| 12 | 00NSPJPFA0040 | AL |  | D | Vinyl bag (for cable) |
| 14 | 00NSJDPW0011Z | AL |  | D | Vinyl bag (for AC adaptor) |
| 15 | 00NSPJPEA0126 | AL |  | D | Pick up protect sheet |
| 16 | TLABM2399ACZZ | AF | N | D | Name plate label(packing case) [U,E,A,G] |
|  | TLABM2401ACZZ |  | N | D | Name plate label(packing case) [C] |
| 17 | TLABP2405ACZZ | AE | N | D | UPC bar code label [U] |
|  | TLABP2406ACZZ | AE | N | D | EAN bar code label [E,A,G] |
| 18 | TLABZ2415ACZZ | AE |  | D | A label (for SET)[U,E,A,G] |
| 19 | TLABZ2408ACZZ | AE | N | D | DC blinde seal [E,A,G,C] |
| 20 | TLABZ2384ACZZ | AE |  | D | Actius label [C] |
| 501 | DUNTK4898ACZZ | CQ | N | E | CD-ROM unit [U] |
|  | DUNTK4880ACZZ | CP | N | E | CD-ROM unit [except U] |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

## DESTINATION TABLE

| SELECTION CODE | COUNTRIES |
|---|---|
| U | SEC, SECL |
| A | SRH |
| G | SEEG |
| C | China |
| E | SCA, SRS, SUK |

# SHARP SERVICE MANUAL

CODE: 00ZCEBL03SM-E



# EXTERNAL BATTERY PACK

## MODEL CE-BL03

### For PC-A100

## 1. PRODUCT OUTLINE

- Li-ion battery pack for the PC-A100
- Possible to remove and install the pack during operation
- Battery operating time: approx. 8.5 hours

  * The operating time varies with the power-saving function setting and operating condition of the PC-A100.
- Battery charging time

| Condition of PC | Time necessary for charging discharged batteries (standard and expansion batteries) up to fully charged condition. |
|---|---|
| Power OFF<br>Suspend disk mode | approx. 5.5 hours |
| Power ON | approx. 7.5 hours<br>The time varies with operating condition of the PC. |

This document has been published to be used
for after sales service only.
The contents are subject to change without notice.

SHARP CORPORATION

SHARP CORPORATION
Information Systems Group
Quality & Reliability Control Center
Yamatokoriyama, Nara 639-118, Japan
1998 September Printed in U.K. Ⓢ

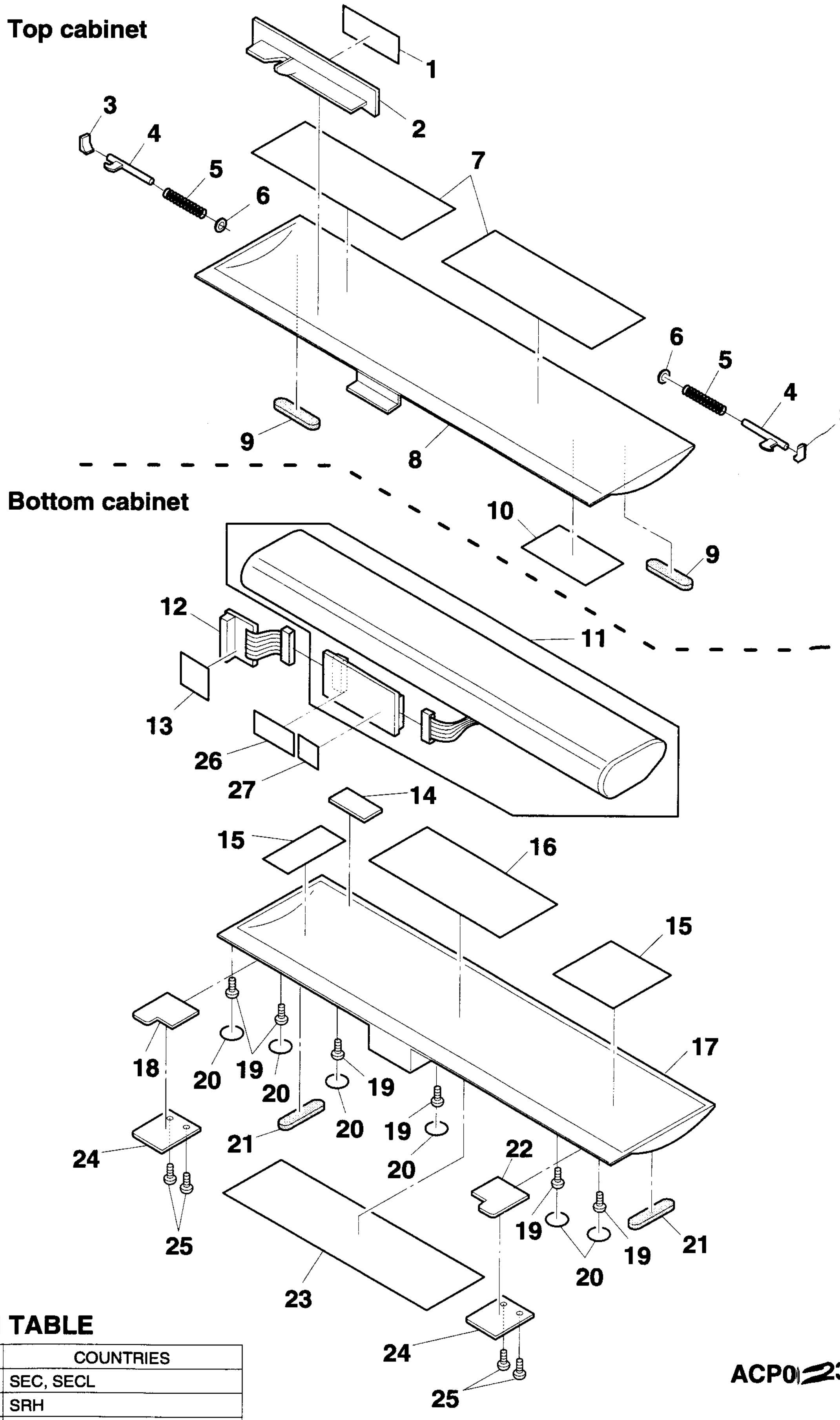
## 1 Exteriors

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION |
|---|---|---|---|---|---|
| 1 | PSHEZ1213ACZZ | AG |  | C | LED reflection sheet |
| 2 | PLNS-1013ACZZ | AD |  | C | LED lens |
| 3 | JKNBZ1034ACZZ | AD |  | C | Battery lock knob |
| 4 | MLOK-1009ACZZ | AD |  | C | Battery lock hook |
| 5 | MSPRP1055ACZZ | AC |  | C | Lock spring |
| 6 | LX-WZ5009SCZZ | AA |  | C | Washer (3.1×5.4×0.13) |
| 7 | PTPEZ1136ACZZ | AE |  | D | Double side tape B |
| 8 | GCABB1173ACZZ | AR |  | D | Top cabinet |
| 9 | PCUSS1115ACZZ | AC |  | C | Corner pad |
| 10 | TCAUS1037ACZZ |  | N | D | Caution label |
| 11 | DUNTK4670ACZZ | CA |  | E | Battery unit |
| 12 | DUNTK4744ACZZ | BB |  | E | Connector PWB unit |
| 13 | PTPEZ1142ACZZ | AC |  | D | UL Vinyl tape (17×20mm) |
| 14 | PSPAP2387ACZZ | AB |  | C | Connector PWB spacer |
| 15 | PTPEZ1152ACZZ | AC |  | D | Double side tape C |
| 16 | PTPEZ1135ACZZ | AF |  | D | Double side tape A |
| 17 | GCABA1174ACZZ | AR |  | D | Bottom cabinet |
| 18 | GiTAZ1035ACZZ | AD |  | C | Reinforce plate L |
| 19 | XEBSD20P08000 | AA |  | C | Screw (2×8) |
| 20 | PSHEZ1189ACZZ | AC |  | C | Screw blinde sheet |
| 21 | PGUMS1038ACZZ | AE |  | C | Rubber foot |
| 22 | GiTAZ1034ACZZ | AD |  | C | Reinforce plate R |
| 23 | TSPC-1480ACZZ | AE | N | D | Name plate label [U,A] |
|  | TSPC-1482ACZZ | AE | N | D | Name plate label [E] |
| 24 | GiTAZ1038ACZZ | AE | N | C | Fixing plate |
| 25 | LX-BZ1200ACZZ | AA | N | C | Screw |
| 26 | PZETL1098ACZZ | AC |  | C | Insulate sheet 1 |
| 27 | PZETL1099ACZZ | AB |  | C | Insulate sheet 2 |

## 2 Packing material & Accessories

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION |
|---|---|---|---|---|---|
| 1 | PCAS-1014ACZZ | AV |  | D | Soft case |
| 2 | SPAKA3023ACZZ | AC |  | D | Vinyl bag |
| 3 | SPAKC3057ACZZ | AG | N | D | Packing case |
| 4 | SSAKA1240QCZZ | AA |  | D | Vinyl bag (180×270mm) |
| 5 | TGANU1192ACZZ | AE | N | D | Warranty [U] |
| 6 | TiNSM1785ACZZ | AL |  | D | OP instration sheet |
| 7 | TLABP2413ACZZ | AD | N | D | UPC bar code label [U] |
|  | TLABP2414ACZZ | AD | N | D | EAN bar code label [E,A] |
| 8 | TLABM2397ACZZ |  | N | D | Hong Kong label [A] |
| 9 | TLABM2411ACZZ | AF | N | D | Name plate label(packing case) |

## 1 Exteriors


Top cabinet
1
2
3
4
5
6
7
6
5
4
3
9
8
Bottom cabinet
10
9
12
11
13
26
27
14
15
16
15
17
18
20
19
20
19
20
21
20
19
20
24
22
19
21
25
20
19
23
24
25

ACP01238

**DESTINATION TABLE**

| SELECTION CODE | COUNTRIES |
|---|---|
| U | SEC, SECL |
| A | SRH |
| E | Other countries |

SHARP

**COPYRIGHT © 1998 BY SHARP CORPORATION**
All rights reserved.

No part of this publication may be reproduced,
stored in a retrieval system, or transmitted,
in any form or by any means,
electronic, mechanical, photocopying, recording, or otherwise,
without prior written permission of the publisher.

**SHARP CORPORATION**
**Information Systems Group**
**Quality & Reliability Control Center**
**Yamatokoriyama, Nara 639-11, Japan**
1998 April Printed in U.K. Ⓢ

Date: Sep. 28, 1999

**PERSONAL COMPUTER: PC-A100U/A150U**

No. : TES-A003

# Service Information

**RELEASE OF MODEM DRIVER AS A MEASURE TO CORRECT CONNECTION PROBLEMS DURING V90 MODE.**

**1.Model Name:** PC-A100U/A150U

**2.General:** There was a problem in the US markets with the internal modem of the models listed above. An appropriate connection could not be made with the internal modems during V90 mode operations. A modem driver has now been released which will correct this problem.

**3.Description:** There was a report which was received from the US markets concerning a problem with the internal modem. When using the internal modem and connecting to an access point which had equipment in which the V90 mode had been installed, the machines could not be connected in V90 mode, or else connections could only be made at low transmission speeds. As a measure to alleviate this problem, a modem driver has now been released which will prevent the problem described above from occurring.

| | |
|---|---|
| Present version | 7.55M or 7.5506M |
| Update version | 7.64-9KF-MS |

**4.Action:** Production of the models listed above has already been completed, and therefore the action described above has been introduced to the markets as service action only.

**5. Attached documentation:** Update Procedures Manual and Version Confirmation Procedures Manual.

## Modem Driver Update Procedure

Double click [HSP Modem] icon on [Control Panel].
Click [UnInstall] button on [Hsp Modem].
Click [OK] button when displaying "Do you really want to uninstall HSP Modem?".
Click [OK] button when displaying "Hsp Modem is removed successfully!".
Restart the computer.
Click [Next] button on [Add New Hardware Wizard].
Click [Next] button with "Search for the best driver for your device." selected.
Insert the modem driver update disk to the floppy disk drive.
Click [Next] button with "Floppy disk drives" selected.
Click [Next] button when displaying "HSP K56FLEX PNP MODEM"
Click [Finish] button when displaying "Windows has finished installing the software...".
Click [OK] button with "USA" selected on [HSP Modem Country Selection].

## Modem Driver Version Confirmation Procedure

Double click [Modems] icon on [Control Panel].
Click [Diagnostics] tag on [Modems Properties].
Click [More Info...] button with COM port of "HSP K56FLEX PNP MODEM" selected.
The correct version is "PCtel 7.64-9KF-MS" Response of "ATI3" Command on [More Info...].

Date: Sep. 28, 1999

**PERSONAL COMPUTER: PC-A100U/A150U**

No. : TES-A004

# Service Information

**RELEASE OF MODEM DRIVER AS A MEASURE TO CORRECT PROBLEMS OF BEING UNABLE TO DIAL MORE THAN 40 DIGITS.**

**1.Model Name:** PC-A100U/A150U

**2.General:** There was a problem in the internal modem of the models listed above. The modems were unable to dial more than 40 digits. A modem driver has now been released for WindowsNT 4.0 which will correct this problem and allow the internal modem to dial more than 40 digits.

**3.Phenomenon:** A error occurred when more than 40 digits were dialed with the internal modem while using the machines in a WindowsNT 4.0 environment.

**4.Action:** A modem driver has been released that will alleviate the problem described above.

| | |
|---|---|
| Old version | 7.54.08 |
| New, updated version | 7.60.08 |

**5. Attached supplemental document:** Update Procedures Manual and Version Confirmation Procedures Manual.

## Modem Driver Update Procedure

Double click [Modems] icon on [Control Panel].
Click [Remove] button to uninstall the current modem driver.
Click [Yes] button when displaying “Are you sure you want to remove the modem...”.
Click [Add] button to install the update modem driver.
Enter a check on [Don’t detect my modem; I will select it from a list]
Click [Next] button
Insert the modem driver update disk to the floppy disk drive.
Click [Have Disk] button
Click [OK] button when setting “Copy manufacture’s files from:” to “A:¥”.
Click [Next] button with “HSP 56K PNP MODEM” selected.
Select a COM port with “Selected ports” selected.
Click [Next] button.
Click [OK] button when displaying “You will need to restart the system...”.
Click [Finish] button when displaying “Your modem has been set up successfully.”.
Click [Close] button in [Modems Properties].
Restart the computer.

## Modem Driver Version Confirmation Procedure

Click [Windows NT Explorer] in [Programs] menu.
Right button click [C:¥WINNT¥system32¥drivers¥ptserial.sys] file on [Windows NT Explorer].
Click [Properties] in the menu.
Click [Version] tag on [ptserial.sys Properties]
Look at [File version].
The correct version is “7.60.08”.